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PUBLIC CONCEPTS OF THE COST AND UTILITY OF HIGHER EDUCATION.

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THE STUDY'S OBJECTIVES WERE (1) TO APPRAISE PUBLIC CONCEPTS OF THE PERSONAL VALUE OF HIGHER EDUCATION, (2) TO DETERMINE PUBLIC CONCEPTS OF THE VALUE OF HIGHER EDUCATION TO SOCIETY, (3) TO DETERMINE THE PUBLIC UNDERSTANDING OF THE PROBLEM OF STUDENT DEMAND AND INSTITUTIONAL LIMITATIONS, (4) TO DISCOVER THE PUBLIC UNDERSTANDING AND ATTITUDES TOWARD THE FINANCING OF HIGHER EDUCATION, AND (5) TO DISCOVER RELATIONSHIPS OF PUBLIC ATTITUDES TOWARD HIGHER EDUCATION TO ATTITUDES TOWARD PUBLIC EDUCATION AT THE PRECOLLEGE LEVEL AND TO DETERMINE HOW DIFFERENCES IN PERCEPTIONS, CONCEPTS, ATTITUDES AND INTENTIONS RELATE TO DIFFERENCES AMONG MAJOR SEGMENTS OF THE POPULATION. A NATIONAL SAMPLE INTERVIEW SURVEY METHOD WAS USED. APPROXIMATELY 1,350 INTERVIEWS WERE MADE. THE STUDY POINTED OUT PUBLIC OPINION AS OF THE SPRING OF 1963, BUT THE INVESTIGATORS FEEL THAT THE DYNAMIC SOCIAL AND ECONOMIC CHARGES CONTINUING IN THIS COUNTRY WILL OBSOLETE THE DATA FOUND RELEVANT AT THAT TIME. CONCLUSIONS WERE THAT--(1) PUBLIC OPINION WAS ONLY PARTLY FORMED, FREQUENTLY UNINFORMED, AND WOEFULLY CONFUSED, (2) VERY FEW PEOPLE BELIEVED THAT THE COUNTRY WOULD BE BETTER OFF IF THERE WERE FEWER COLLEGE GRADUATES, (3) MORE PEOPLE BELIEVED THAT A COLLEGE EDUCATION HAS MORE VALUE TO THE INDIVIDUAL THAN TO SOCIETY AS A WHOLE, (4) MOST FELT THAT A COLLEGE EDUCATION WAS THE RIGHT OF AMERICAN YOUTH, (5) PUBLIC OPINION PREPARED FOR SUBSTANTIAL INCREASES IN EDUCATIONAL EXPENDITURES, (6) A HIGH PROPORTION OF PARENTS WANTED THEIR CHILDREN TO ATTEND COLLEGE, AND (7) COLLEGE ATTENDANCE WAS CLEARLY ASSOCIATED WITH ECONOMIC STATUS. (HB)

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PUBLIC CONCEPTS OF THE COSTS AND UTILITY OF HIGHER EDUCATION

Cooperative Research Project No. 1816

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Survey Research Center
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OBJECTIVES, PROCEDURES AND GENERAL OUTLINE OF THE REPORT

The increasing demand for higher education is creating problems which give every promise of getting worse before they get better. It is difficult for public understanding to keep pace with the rapidly changing situation of the nation's colleges and universities. We move into a growing conflict between public demand for the benefits of higher education and public failure to support a tax program which will make these greatly expanded services possible.

In order to understand public reaction to educational problems, it is necessary to know how people see the world of education, what their values are regarding education, and how they assess the alternatives presented to them. It may be anticipated that different segments of the public differ substantially in all of these respects and that the public cannot be understood as a single undifferentiated whole. It may also be assumed that some of these segments will have much greater influence on public policy than others.

There is a great range of information about the public which would be of value to those who are concerned about the future of higher education. Any systematic inquiry into this general area must make some selection among the many alternative questions which might be investigated. The following list of objectives represents those problems which seem to us to be central in importance at the present time.

Objectives

The study was organized around the following major objectives:

1. What are public concepts of the personal value of higher education?
2. What are public concepts of the value of higher education to society?
3. What is public understanding of the problem of student demand and institutional limitations?
4. What are public understanding and attitudes toward the financing of higher education?
5. What are public intentions regarding higher education of their own children?
6. How do attitudes toward higher education relate to attitudes toward public education at the pre-college level?
7. How do these perceptions, concepts, attitudes and intentions differ in the major segments of the population?

Procedure

The data for this study came from a national survey conducted in May 1963 by the Survey Research Center of The University of Michigan. Employing the Center's stratified probability sample, a group of 1310 respondents were interviewed with regard to objectives outlined above. Appendix A contains a complete list of the questionnaire items. The sample represented all geographical areas in the country with the exception of Alaska and Hawaii.[1] Urban, suburban, and rural areas were all represented. Respondents were randomly selected within households so that the sample consisted of male and female heads of households as well as wives of heads of households. Questions were of an open-end variety with specified probes accompanying each question.

The analysis consisted of indicating various attitudes toward higher education for the total sample and certain relevant subgroups. Answers were examined for respondents grouped according to income, education, age, religion, political affiliation, race, region, location, state support, life cycle, and extent of organizational leadership. A list of these control variables is included in Appendix A. Though the nature of most of these variables should be self-explanatory, some explanation should be given regarding the life cycle and state support variables.

The life cycle control variable was designed in an attempt to classify people at the various stages of a normal life. People ranged from young unmarrieds (under 45) who might conceivably still marry and have children to older unmarrieds (over 45) who are unlikely to have children. Married respondents were grouped according to those with no children, those with children under eighteen, those with children between ages 18-25, and finally those with no children under 25 years of age. The assumption was that attitudes toward various aspects of higher education might vary among respondents according to the degree of responsibility for educating children. People were therefore grouped in terms of life cycle and the corresponding degree of responsibility for educating children.

The state support variable was constructed by determining the per capita expenditure for higher education for all the states. Quartiles were then designed, ranking states in per capita contributions while maintaining as closely as possible, equal population figures within quartiles. For a list of these states by quartile see Appendix A.

Though this large number of different control variables was employed in analyzing all the data, references to these control variables in the text will only be made where there are statistically significant differences between subgroups. The .05 level of statistical significance was employed throughout the study. For a further discussion of statistical treatment and accompanying tables see Appendix B.

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[1] A regional weight was employed so that the sample might concur more completely with 1963 census figures. In general, this involved a change of less than a percentage point per response category in tables involved in the report. For additional information write the Survey Research Center, The University of Michigan, Ann Arbor, Michigan.

Outline of the Report

The organization of the ensuing chapters of this report will be as follows: each chapter will be divided into three major sections, (1) a presentation of data and expert opinion, including estimates of future demands for higher education and associated costs, (2) data on the general public's attitudes toward these aspects of higher education, and (3) a summary statement.

Chapter I. A review of the history of higher education in this country and an introduction to general problems in the area of higher education are presented.

Chapter II. Data are presented on the estimated social and economic advantages of higher education in terms of income, social mobility, and related variables. The public's attitudes toward higher education in general, the perceived personal advantages of higher education, education today as compared to 20 or 30 years ago, and perceived disadvantages of going to college represent the survey data for this chapter. A summary follows.

Chapter III. A statement on the estimated societal advantages of higher education and the growing need for people with college education is presented. Data on the awareness by the public of the societal advantages of higher education and its increasing importance constitute the survey data section of this chapter. A summary follows.

Chapter IV. A more elaborate review of the current college financial crisis is presented here. In addition data on the public's degree of awareness of these problems are presented. A summary follows.

Chapter V. Data on current methods of financing higher education and alternative solutions are offered. The public's feeling on alternative solutions to the financial crisis is then presented. A summary statement follows.

Chapter VI. This chapter is devoted to summarizing the major findings presented in the earlier chapters.

CHAPTER I

HIGHER EDUCATION IN AMERICA

The Founding Fathers did not provide in the Constitution for the support of public education; responsibility for the development of educational institutions was left to the individual states. Private schools were established widely prior to the Revolution and a small number of colleges were founded. The growth of a system of public schools began in the first half of the nineteenth century and by the end of that century the nation had developed a program of education unrivaled in breadth throughout the world.

This extraordinary program was pragmatically developed to meet the needs of an emerging society and it has experienced constant change. As time has passed, standards have risen, scope has broadened, and public demand has increased greatly. During the present century this rising demand has had particular impact at the college level and since the Second World War the country's colleges and universities have been pressed to the limit of their capacities. It is apparent from the relentless statistics on population growth that the pressure can only increase.

It was in anticipation of this rising tide of college students that the present study was undertaken. We are interested primarily in securing measures of the attitudes held by the general public toward the social and personal values of higher education and toward the expenditure of funds to support an expanding program of college training. We feel it is time to mark a baseline from which future changes in public attitudes can be assessed.

We will present in this report a descriptive statement of the public's understanding and evaluation of a number of questions bearing on the developing crisis in higher education. The evidence presented has value as a description of public thinking in the Spring of 1963; it will have greater value as comparable evidence is gathered in subsequent years.

Early History of Higher Education in America

Higher education was a reality in this country long before the founding of the Republic. The Pilgrim Fathers had barely set foot on this continent when provisions were made for establishing institutions of higher learning. The first such college was, of course, Harvard, established in 1636. Following the lead of Massachusetts, a number of private colleges were established in the infant states in the seventeenth and eighteenth centuries. Nine such private institutions included Harvard in Massachusetts, Yale in Connecticut, Brown in Rhode Island, Dartmouth in New Hampshire, Pennsylvania in Philadelphia, Princeton in New Jersey, Columbia in New York, Rutgers serving the Middle Colonies, and William and Mary established for the Southern Colonies.

These early schools were church-related institutions, and their faculties were largely clerical. In keeping with the European university tradition, their emphasis was on the liberal arts. As private schools, they were supported through individual contributions and in general provided education for the select few who could afford the time and expense of a higher education.

The dominance of the liberal arts program in the college curriculum began to waver in the 1820's when independent schools of medicine, law, and theology were established. In 1825, Jefferson established seven separate colleges at the University of Virginia, which included mathematics, chemistry, and medicine. Additional technical schools established during this period were the Rensselaer Polytechnic Institute, the Sheffield Engineering School at Yale, and the Lawrence Scientific School at Harvard.[1]

Another factor contributing to the diversification of curriculum was the gradual development of state universities. State colleges were established in Georgia, North Carolina, Tennessee, and Vermont before the beginning of the nineteenth century and these became more prevalent as new states developed with the movement west. Early state schools were modeled after private institutions in their emphasis on the liberal arts, but later schools included more practical courses. Accompanying the broadening of curricula was a liberalization of the purposes of higher education. No longer was a college education recognized as the perogative of only a certain elite segment of this society. Higher education for a broader spectrum of society became a paramount goal.

The one event which contributed most to both the development of a broader clientele and a more diversified curriculum was the passing of the Land Grant Act of 1862. This Act explicitly stipulated, "An Act donating Public Lands to the several States and Territories which may provide Colleges for the Benefit of Agriculture and the Mechanic Arts." The Act also proposed that each state use this land to establish a college where "the leading aspect shall be, without excluding other scientific and classical studies . . . to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes . . . ."[2] This Act also contributed to the predominance of public institutions as one moves west, while in the older states of the East private schools account for a major share of educational opportunities.

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[1] For a more complete treatment of developments in higher education in early America see: Stewart, Campbell, "The Place in Higher Education in a Changing Society" in The American College, Nevitt Sanford (Ed.). New York: John Wiley & Sons, Inc., 1962.

[2] Ibid.

Another major change in American higher education occurred in 1876. In that year Johns Hopkins University opened in Baltimore. Its avowed purpose was to promote research. This same research function began to be emphasized at Harvard and Cornell in 1892 and spread to other major schools in the succeeding years.

This series of events has contributed to a rather unique system of higher education in America today. As a result of these critical stages in development, colleges and universities in this country educate a much larger and broader cross-section of the population than do those in other countries. The variety of subjects taught and the students' freedom in selecting courses is also much greater here. A more general education for undergraduates is the rule in this country, with professional specialization being left for the more highly qualified who go on to graduate work. In contrast, these functions are likely to be combined in the undergraduate institutions of many foreign countries.

This short review of the major events in the development of higher education in this country provides some idea of the variety of people and purposes served by college and university programs. To what extent have people over the years availed themselves of the opportunities for higher education?

Current Levels of Education in This Country

It is difficult to assess the actual increase in educational attainment of the general public. Investigators who have attempted this task find the concept of "a year of schooling completed" to be an unreliable measure. Schultz (1962) contends that the "school year is now 60 per cent longer than it was six decades ago."[3] Without considering these differences, the total stock of education in the labor force has increased about three and one-half times between 1900 and 1957.

Stewart (1962)[4] quotes some figures by Cowley (1956) indicating that the proportion of 18-21 year olds attending college increased from 2.1 per cent in 1870 to 8.1 per cent in 1920. Thus while the population in this age group had doubled over this period, the number of young people in college had quadrupled.

Brazer and David (1962) add some additional information on the rapid rise in level of educational attainment over the last half century. Though most Americans before 1900 ended their formal education before reaching high school, almost one-third of the generation which has just completed its education have attended college. The authors suggest that "within the past fifty years the educational attainment of the modal members of succeeding generations has moved up from less than a high-school education to 1 or more years of college."[5]

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[3] Schultz, Theodore W. "Rise in the Capital Stock Represented by Education in the United States, 1900-57" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[4] Stewart, *op. cit*.

This remarkable upgrading of public educational achievements has obviously required an extensive investment of public support, an investment based on the assumption that the social and individual values of a highly developed educational system justify the cost.

The Value of Higher Education for Society and the Individual Citizen

The most fundamental social argument for higher education is simply that the intellect of the young is an essential resource that must be developed if the nation is to realize its fullest potential. This nation has developed such a productive capacity as to afford to have the majority group in the working population in tertiary, i.e., service-producing activities rather than in goods-producing sectors. This is reflected in the vast increase in white-collar jobs and the fact that during the past generation professional and managerial employment--two major outlets for the college-trained--has increased 50 per cent.[6] The need for trained technicians, scientists, and other professionally trained personnel is expanding and promises to expand still further.

At the individual level, the relationship between educational and occupational status is a readily observed fact. Persons with less than a high school education are relegated to the more menial jobs in the occupational ladder, jobs that are not only less rewarding but which are being phased out as automation becomes more prevalent. People with higher aspirations for the professions or managerial positions increasingly feel the need for four or more years of college. In a technologically expanding society where one-third of the salesmen and one-fourth of the office clerks have gone to college, the man who is inadequately schooled obviously is at a great disadvantage.[7]

The benefits to be derived from higher education by the individual and society as a whole are obviously not only economic. There are also intangible and less immediate values. Among the high priority goals of institutions of higher education is the enhancement of such qualities as independence of judgment, critical thinking, creativity, freedom from irrational prejudice and the like. The long-range effects of such influences, if realized, might well have more lasting and beneficial effects on society than those immediately economic.

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[5] Brazer, Harvey E. and David, Martin. "Social and Economic Determinants of the Demand for Education" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027

[6] Miller, Herman P. "Income and Education: Does Education Pay Off?" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[7] Ibid.

The enlightenment of the electorate provides the essential basis of the functioning of a democratic society. The reduction or elimination of religious and racial prejudice could have more lasting and fundamental effects on social welfare and happiness than any conceivable technical advance. Finally, the ideas that are stimulated and the creativity engendered through college training may be the basic ingredient for growth in our society. A continuing stream of new and original ideas seems essential for the future social and economic growth of the nation.

The benefits of college education to both the individual and society are seldom seriously contested. The problem is rather how this expensive and expanding system of higher education is to be paid for. A review of the financing of higher education over the past 300 years will suggest the sources from which this support will come in the future.

Financing Higher Education in America

Historically, support for higher education in this country has come from all areas of society--individual gifts, foundation grants, receipts from tuition and other student fees, federal land grant payments, and state tax funds. In recent years many universities have received substantial sums from business concerns and federal agencies for the support of research projects.

One unique aspect of the financing of higher education in America has been the great importance of endowments. Although the private colleges had always been supported by private contributions, from 1870 onward the sizable contributions of such men as Carnegie, Rockefeller, Peabody, Vanderbilt, Stanford, and many others supported education in this country on a scale which sharply contrasts with European practice.

State financing of higher education began as a result of the attempt to provide a more practical curriculum to a broader range of people. Mushkin (1962)[8] quotes Thomas Jefferson as saying, ". . . those persons, whom nature has endowed with genius and virtue, should be rendered by liberal education worthy to receive, and able to guard the sacred deposit of the rights and liberties of their fellow citizens, and that they should be called to that charge without regard to wealth, birth, or other accidental condition or circumstance . . . ." Along with establishing state colleges, early state governments also supported private colleges through direct grants and tax exemption. Institutions such as Bowdoin, Columbia, Dickinson, Hamilton, Harvard, Union, Williams, and Yale received early state grants.[9]

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[8] Mushkin, Selma J. "State Financing of Higher Education" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

The federal government's interest in and contribution to higher education began early in our history and continues to this day. Beginning with the Land Grant Ordinance of 1785, the federal government expanded its assistance to state colleges through the First and Second Morrill Acts in 1862 and 1890. In more modern times, the Works Projects Administration was responsible for the construction of many buildings on present-day campuses. More recently the Housing Act of 1950 provided low-interest, long-term loans for the construction of faculty and student housing. Federal aid to college students began in 1933 and continued until 1943 with grants from the Federal Emergency Relief Administration. The G.I. Bill and similar legislation provided aid to veterans of World War II and the Korean War.

During recent years, there has been a decided trend for governmental support at both the state and federal level to pay an increasing share of the total higher education bill. Comparing the years 1929-30 and 1955-56, the share covered by governmental support has increased from 36 per cent to 50 per cent. Over this same period of time, the contributions from student fees have declined from 30 per cent to 25 per cent. Endowments have also declined in relative importance accounting for 16 per cent of revenue versus 20 per cent in the earlier period.[10]

It will become obvious throughout this report that previous levels of support for higher education will not be sufficient for the anticipated expansion of the next few years. The students themselves, up until recently, have never been a major source of revenue for colleges. Alumni contributions and other individual gifts have helped sustain many a foundering college over the years. Yet these funds are no longer of a large enough magnitude to allow the efficient operation of most modern colleges. The magnanimous endowments of philanthropists which established and sustained so many colleges in the latter half of the nineteenth century are no longer a major source of support and it is questionable whether they ever will be again.

This leaves the major burden of financing college education up to the individual citizen in the form of the student himself, the family of the student, or the individual taxpayer contributing through federal, state, and local taxes to the support of higher education. State appropriations have long been the major source of income for state universities. Though the private schools enjoyed a considerable independence of public support during the peak period of philanthropic contributions in the last century, they too are looking to greater public support to meet the increasing costs of higher education.

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[9] Ibid.

[10] Lees, Dennis S. "Financing Higher Education in the United States and in Great Britain" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

The Current Problem of Expanding Demand and Limited Capacity

The financing of higher education in this country over the next decade and beyond presents problems. In the succeeding chapters of this report we will review various estimates of the increasing demand for college education and the probable costs. Suffice it to say at this point that the postwar increase in the numbers of college-age youth, the increasing proportions of these youth who aspire to go on to college, and the increasing demand for education beyond the four-year degree are creating pressures on the nation's capacity for advanced education which cannot be met unless there is a tremendous expansion of both plant and personnel within the next few years.

It is already apparent from current enrollment trends that the future growth in higher education will take place primarily in the public institutions. The private colleges, which until recently provided a majority of the nation's graduates, are now falling behind and will soon be outdistanced. This means, of course, that the historic role played by private support of higher education will decline in relative importance and the major burden will fall on the state and federal governments. The burden will be substantial. A program of expansion which would meet the rapidly growing demand will require a national investment of at least double the present level of support.

The willingness of the nation's taxpayers to pay these increased costs obviously becomes a critical factor in the immediate future of the nation's program of higher education. Although the intent of public opinion is often very imperfectly expressed in the representative bodies of the states and the nation it is not likely to be without influence in this regard. Presumably the public will support the higher expenditures which lie ahead if it feels the values of college training justify these costs. It is just this question of public perception of the values and costs of higher education to which this report addresses itself.

CHAPTER II

PERSONAL VALUES OF HIGHER EDUCATION

The values of higher education are both social and individual. Lord Whitehead's famous dictum that a society which does not foster its trained intellects cannot hope to survive expresses well the intellectual's belief in the social value of advanced education. In the current period, this abstraction has acquired a more immediate urgency than ever before as the development of advanced technologies has resulted in the international competition in space. The production of young scientists and engineers has become an important concern of national policy.

To the individual citizen the demands of an increasingly complex economy and the requirements of national security may seem rather remote from questions of who should go to college and how much he should pay in taxes to support them. He may see college education largely in personal terms without much understanding of its larger implication for society as a whole.

One of the purposes of this study is to assess the extent to which the general public values higher education in purely personal terms and how much it recognizes its broader social values. If it values what higher education can do for the individual, what are the specific advantages it sees? If it thinks in social terms, is it impressed primarily by questions of national defense or by other more sophisticated arguments? We will discuss these questions in this and the following chapter, beginning with evaluations of the purely personal values of a college education.

The Effect of Higher Education on Personal Income and Type of Occupation

Whether training for a career is the most important function of a college education is a debatable point. The fact that college training does affect a person's potential income and type of occupation, however, is well documented. As C. Wright Mills observed in 1951, "In the white-collar life and its patterns of success, the educational segment of the individual's career becomes a key to his entire occupational fate."[1]

A number of studies provide statistical support for the commonplace observation that years of formal education are closely associated with occupational status and personal income. Employing data from the 1950 census figures, Glick and Miller (1956) estimated mean annual incomes for men with various levels of educational attainment.[2] There is a clear relationship between income and education, with high school graduates earning an average of $4519 annually, while for people with one to three years of college and for college graduates, the figures are $5473 and $7907, respectively. According to these writers, a college degree may be worth around $100,000 when one compares the lifetime earnings of those who have graduated from college with those of people who have not gone beyond high school.

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[1] Mills, C. W. White-Collar. New York: Oxford, 1951, p. 266.

[2] Glick, P. C. and Miller, H. P. "Educational Level and Potential Income," American Sociological Review, 21, 1956, pp. 307-312.

Havemann and West (1952) provides striking evidence for the relationship of educational level to occupational success.[3] Citing the results of a national survey, the authors find substantial differences between the incomes of college graduates at all ages when compared with the national median. Graduates of under 30 years of age are already earning incomes 60 per cent in excess of the median income. By the time they are in their forties, the percentage has risen to 180. By the peak earning years, college graduates in their fifties are earning 184 per cent more than the national median income, or almost three times as much as the average man. The main reason for this large difference is that college graduates hold the key positions in our society in terms of both income and prestige. The authors found that 84 per cent of their sample of over 9000 college graduates could be classified occupationally as professionals, managers, proprietors, or executives. In contrast, only 16 per cent of noncollege men fall into these occupational classifications.

The increasing importance of a college education where a high school diploma may once have sufficed is also demonstrated in a study by Lipset and Bendix (1959).[4] College education is particularly important for young people from lower classes who have aspirations for upward social mobility. The authors indicate that even with a high school education the sons of manual workers are likely to enter the labor market in a manual labor job. It is only by acquiring a college education that most children born of lower-class parents can expect to enter a middle-class occupation.

Warner and Abegglen (1955) contribute another type of evidence supporting the contention that college training is a prerequisite to success in the business world.[5] They compared the educational levels of business leaders in 1928 and in 1952. In 1928 about a third of these people were college graduates while a total of 43 per cent had either attended or graduated from college. By 1952 these figures had risen to 60 per cent and 76 per cent, respectively. While 27 per cent of the business leaders in

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[3] Havemann, E. and West, Patricia S. They Went to College. New York: Harcourt, Brace, 1952.

[4] Lipset, S. M. and Bendix, R. Social Mobility in Industrial Society. Berkeley, Cal.: University of California Press, 1959.

[5] Warner, W. L. and Abegglen, J. C. Occupational Mobility in American Business and Industry. Minneapolis, Minn.: University of Minnesota Press, 1955.

1928 had not gone beyond grammar school, this poorly educated group had almost disappeared by 1952 with only four per cent being found among business leaders.

Yet there are those who feel the impact of education on future earnings and occupational success has been overestimated. Bridgman (1960) criticizes the figures reported by Glick and Miller on the grounds that they reflect income rather than earnings, the former figure being enhanced by investment income which is more often found among college graduates.[6] At the same time he feels that any comparison between lifetime earnings of college graduates with the earnings of those with less education should be based on median rather than mean figures. This reduces the impact of a few extremely high incomes among college graduates who owe their success not so much to education as to other factors such as unique abilities, family contacts, etc. Employing median income figures for 1950 data, Bridgman finds the differential in lifetime earning between college-educated and noncollege-educated people to be more like $60,000.

West (1953) also concludes that a college education is no longer a guarantee of access to the top income classes.[7] On the basis of her data, it would appear that, with more and more college graduates, the attainment of a college education has become more commonplace. This may contribute to a greater rigidity in the stratification system, so that family background and graduating from a "name" college are the essential prerequisites to financial success.

Despite evidence to the contrary, more recent data seems to indicate that although access to the highest occupational positions in our society is becoming more difficult, the gap in incomes between the college-educated and those with less education is increasing. Bridgman's own figures seem to contribute to this conclusion. For lifetime incomes, the differences between college-educated and noncollege-educated people, using mean figures, went from $103,000 in 1950 to $154,000 in 1956. Adopting Bridgman's suggestions, the differences in median life-incomes went from $60,000 in 1949 to $92,000 in 1956.

More recent data are also available from four consumer surveys conducted in 1957, 1958, 1962, and 1963. Morgan and Lininger (1964) cite figures on changes in average income between the periods of 1956-57 and

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[6] Bridgman, D. S. "Problems in Estimating the Monetary Value of College Education" in Higher Education in the United States, S. E. Harris (Ed.). Cambridge: Harvard University Press, 1960.

[7] West, Patricia S. "Social Mobility Among College Graduates" in Class, Status and Power, R. Bendix and S. M. Lipset (Eds.). Glencoe, Ill.: Free Press, 1953.

1961-62 for males of varying educational levels.[8] For people with an eighth grade education or less, there was an average increase in income over this period of $240, represented by an index ratio of 107. For high school graduates, this increase jumps to $680, or an index of 113. For those with a college degree, there is a dramatic increase of $2570, representing a ratio of 1962 earning to 1957 earnings of 130.

One may agree that a college education in itself is no longer as reliable a ticket as it once was to social and occupational advancement. Though possessing a higher education today may not necessarily provide one an avenue to the topmost positions in our occupational hierarchy, there is a demonstrable and increasingly positive relationship between education and income. Furthermore, with higher education being more prevalent today, a college education constitutes to a greater extent the bare minimum requirement for entering a broad variety of jobs. What was once a passport to high status and income has now become an identification card for entering a great number of responsible but lower level positions.

The Effect of Higher Education on Personality and Attitudes

A variety of research studies have demonstrated that the attitudes, interests, values, and abilities of college students change between their freshman and senior years. Some of this change is unquestionably due to the college atmosphere and its influence on the character development of young people at a very formative period in their lives. The extent to which these changes can be attributed to the process of maturation or just getting away from home has not been adequately investigated. Nevertheless, significant changes over time have been found in the mental ability, attitudes, interests, and values of college students.

The fact that college students demonstrate greater intellectual achievement between their freshmen and senior years should not be surprising. It would be a sorry commentary on the colleges if this were not true. In the area of interests, values, and attitudes, it also is commonly assumed there are substantial changes over the college years, and there is considerable evidence to support this view.

A major attempt to assess the influence of the college experience on attitude formation was made by Newcomb at Bennington College in 1935.[9] Most students between their freshmen and senior years adopted substantially less conservative attitudes toward political and economic issues. Evidence indicates that these attitudes tended to persist at least one to two years after graduation. Also the degree of certainty with regard to attitudes toward issues increased over this period. This attitude change was not a result of influence from particular academic majors but rather involved a change toward conformity with the community-wide norms.

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[8] To be published as a Note by James N. Morgan and Charles A. Lininger in the Quarterly Journal of Economics.

[9] Newcomb, T. M. Personality and Social Change. New York: Dryden Press, 1943.

The question remains, however, do attitudes formed as a result of college experiences persist throughout later life? Will such attitudes remain stable, in spite of radical changes in both societal conditions and the individual's own status? If there are changes over time, are they more likely to be in the direction of conservatism or liberalism? Nelson (1954) succeeded in answering some of these questions.[10] By questioning a sample of 3,758 students from 18 colleges in 1936 and then reinterviewing 901 of these people in 1951, Nelson was able to trace attitude changes over a period of 14 years. He found a postcollege trend toward "slightly more liberal attitudes," but in general most people maintained a highly consistent set of attitudes over this extended period of time.

Actually education seems to have had and will continue to have a positive effect on reducing intolerance. Stouffer (1955) clearly demonstrated the fact that more highly educated people at all age levels are considerably more tolerant toward nonconformists.[11] Though people become less tolerant as they grow older each succeeding generation as a result of a higher average education level tends to be more tolerant of nonconformists of all varieties.

Degree of ethnocentrism has been a subject of comparison between the college-educated and the noncollege-educated person. Plant (1958) administered the E Scale (Adorno et al., 1950)[12] to students at San Jose State College.[13] Two years later he compared the results from a second administration of the test for people who remained in school and those who had voluntarily withdrawn. Though these people were originally matched on ethnocentrism and intelligence, there was a definite tendency for those attending college to become less ethnocentric in their attitudes. This relationship held regardless of the sex, intelligence level, or social membership of the students.

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[10] Nelson, E. N. P. "Persistence of Attitudes of College Students Fourteen Years Later," Psychological Monographs, 68, 1954.

[11] Stouffer, S. A. Communism, Conformity and Civil Liberties: A Cross-section of the Nation Speaks its Mind. Garden City, N.Y.: Doubleday, 1955.

[12] Adorno, T. W., Frenkel-Brunswik, Else, Levinson, D. J. and Sanford, R. N. The Authoritarian Personality. New York: Harper & Brothers, 1950.

[13] Plant, W. T. "Sex, Intelligence, and Sorority or Fraternity Membership and Changes in Ethnocentrism Over a Two-year Period," Journal of Genetic Psychology, 93, 1958, pp. 53-57.

Strong (1951) was interested in determining the stability of interests demonstrated in college as the person grows older.[14] He administered the Strong Vocational Interest Inventory to Stanford freshmen and seniors on four occasions between 1927 and 1949. Strong concludes that interests become part of activities which form a habitual pattern. Many are therefore maintained over a long period of time. Interest scores may be less stable than intelligence scores over a period of years, but they are in turn considerably more persistent than attitudes.

Another approach to the study of attitude change in college is through an inquiry into the degree to which students inculcate and internalize faculty values. Hammond (1959) hypothesized that survival in an engineering program will be related to both initial conformity to the expectancies of the college and the ability to reorient oneself to these expectancies.[15] She also predicted that attitude change among students over the five-year program would be in the direction of greater similarity to the attitudes of engineering college administrators. In both cases, her predictions were borne out.

Although we would expect considerable influence on student attitude development by college teachers, students still maintain considerable independence of judgment throughout their college years. This fact was dramatically demonstrated in a study by Jervis and Congdon (1958).[16] Though there were areas of mutual concern to both students and faculty, there were other values which were ranked differentially by the two groups. Self-fulfillment and self-understanding were ranked second and third in importance by both students and faculty. The objective given primary importance, however, differed, with students rating vocational preparation of foremost importance while the faculty preferred intellectual growth as a focus of college activity. There also seemed to be little real change in these values over four years of college.

These studies seem to indicate that a college education has an effect on at least the more general attitudes of college students. Trends toward more liberal and tolerant thinking are clearly in evidence throughout the college years. As is shown in the data of Jervis and Congdon, however, there is no wholesale incorporation of the faculty-favored goals and objectives. This may be a result of past experience, family influence, or the inability of the faculty to communicate with their students.

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[14] Strong, E. K., Jr. "Permanence of Interest Scores Over Twenty-two Years," Journal of Applied Psychology, 35, 1951, pp. 89-91.

[15] Hammond, Marjorie. "Attitudinal Changes of Successful Students in a College of Engineering," Journal of Counseling Psychology, 6, 1959, pp. 69-71.

[16] Jervis, F. M. and Congdon, R. G. "Student and Faculty Perceptions of Educational Values," American Psychologist, 13, 1958, pp. 464-466.

In summary we may say there is ample evidence that a college education commonly has fundamental and long-range effects on a graduate's life. Occupational opportunities and personal income are both still related to educational attainment. The more subtle effects of a college education are also evident in the studies we have reviewed. The attitudes, performance scores and values of college graduates differ from those of the general population. Though less easy to document, there is substantial reason to believe that these important changes take place as a result of the college experience.

Though there are abundant statistics concerning differences between college graduates and the rest of the population, are these differences perceived by the general population? Are the personal advantages of higher education recognized and appreciated by the common citizen? How well informed is the American public as to the personal benefits of a higher education? This is the major concern of the following pages and the focus of the survey data to be presented.

The Demand for Higher Education

The steadily rising enrollments in the high schools and colleges throughout the nation provide convincing evidence of the fact that a large proportion of the American population place high value on formal education beyond the requirements set by law. Since the Second World War the proportion of youth of high school age who are actually in high school has risen steadily and the proportion of college age youth attending college has also moved up to new high levels. These proportions far exceed the corresponding figures in any other country in the world, particularly at the higher age levels.

These increases in high school and college enrollment express the "effective" demand of the American people for higher education. Millions of families are willing and able to make the investment in advanced training for their children. We may also speak of "psychological" demand, the total number of people who may desire and feel they should have a particular good or service even though they may not be able or willing to pay the required cost. We will be dealing primarily in this chapter with psychological demand, with the psychological value people in different levels of society place on higher education.

We approach this question from several sides. We began our questioning at the level of precollege training, seeking to ascertain the importance people attach to the completion of high school. We posed the problem as a choice for a boy of sixteen years who has an offer of a job; should he take it or should he finish his high school work? Specifically the question read:

> "Now thinking about conditions today, suppose a high school boy knew he couldn't go to college and he got a chance to take a job when he was sixteen. Do you think he should take the job or should he stay in high school until he graduated?"

The question does not ask the respondent about his own child specifically; this is done later in the questionnaire. It poses in general terms the problem of the high school "dropout," adding the attractive condition which is frequently not present in actuality, that the boy has a job opportunity.

The public response to this hypothetical situation is virtually unanimous. The boy should stay in school and graduate. Ninety-seven per cent of the population take this position; only two per cent think he should take the job, the remaining one per cent not giving an opinion.

TABLE II-1

"Now thinking about conditions today, suppose a high school boy knew he couldn't go to college and he got a chance to take a job when he was sixteen. Do you think he should take the job, or should he stay in high school until he graduates?"

Stay in school	97%
Take the job	2
Don't know	1
Not ascertained	*
Total	100%
Number of respondents	1310

*Less than one per cent

On the abstract level of what a high school boy "should do," the public evaluation of a high school diploma is convincingly clear. The specific value which is attached to the diploma is phrased largely in terms of the greater opportunity for "a better job," "more interesting work," or "better income." When asked why they felt the boy should stay in school, our respondents tended strongly to think about the occupational benefits, demonstrating an appreciation of the purely practical values of education, an emphasis which recurs at various points in the study. They also frequently expressed the opinion that the job market is such that a high school education is necessary for employment, apparently recognizing the fact that a diploma has become a prerequisite for an increasing number of occupations.

TABLE II-2

"Why do you think that?"

Respondents who answered that the boy should stay in school gave the following reasons:

Better job with diploma; more interesting work for high school graduates (income not mentioned); get or keep a job	52%
More education necessary; useful skills learned in high school; need high school diploma, not ascertained why	37
Better income with diploma; more income later	6
Sixteen year old too young or immature to quit school; needs time to grow up; can make better choices later	3
High school graduates have higher status or prestige	*
Finishing high school provides worthwhile experience, e.g., athletics, other extra-curricular activities; "You're only young once"	*
Other	2
Not ascertained	5
Total	**
Number of respondents	1271

Respondents who answered that the boy should take the job gave the following reasons:

No more education needed; some high school is enough; some boys don't like school	25%
Income for self; to be self-supporting; "marriage"	14
Job security; unemployment high	12
Learn sense of responsibility; job would keep him out of trouble; younger generation has things too easy	8
He could finish high school in night school and work by day (not an either/or proposition); possible to do both	7
Income for others; to help out at parental home	5
Other	15
Not ascertained	22
Total	**
Number of respondents	26

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*Less than one per cent.

**Column adds to more than one hundred per cent because some respondents gave more than one answer.

These conventions are followed in all of the tables of this report.

The public is just as single-minded about the desirability of a girl's completing her high school work as it is about a boy's, and the reasons given for this belief differ very little from those given regarding a boy. There is a little less emphasis on the immediate job implications of a high school education, but even so this still remains the major value cited for girls, just as it is for boys.

TABLE II-3

"How about a girl? Should she take the job when she was sixteen, or should she stay in high school until she graduated?"

Stay in school	96%
Take the job	2
Don't know	1
Not ascertained	1
Total	100%
Number of respondents	1310

TABLE II-4

"Why do you think that?"

Respondents who answered that the girl should stay in school gave the following reasons:

Better job with diploma; more interesting work for high school graduates (income not mentioned); get or keep a job	43%
More education necessary; useful skills learned in high school; need high school diploma, not ascertained why	40
Better income with diploma; more income later	5
Needs high school to be good wife or mother	5
Sixteen year old too young or immature to quit school; needs time to grow up; can make better choices later	4
High school graduates have higher status or prestige	1
Other	3
Don't know	*
Not ascertained	5
Total	**
Number of respondents	1251

Respondents who answered that the girl should take the job gave the following reasons:	
No more education needed; some high school is enough; some girls don't like school	47%
Income for self; to be self-supporting; "marriage"	13
She could finish high school in night school and work by day (not an either/or proposition); possible to do both	7
Income for others; to help out at parental home	3
Other	24
Not ascertained	13
Total	**
Number of respondents	31

Moving from this inquiry into the value of completing high school, we next asked our respondents to consider the first two years of college. We again phrased the question to present the choice of taking a job or continuing in school:

> "Suppose a boy graduates from high school and he knows he can get into college but he can only afford to go for two years. If he has a chance to take a job, should he take it or should he go to college for two years?"

Here again we find a heavy majority in favor of more schooling, 90 per cent of the public advising that the boy take this alternative. Only

TABLE II-5

"Suppose a boy graduates from high school and he knows he can get into college but he can only afford to go for two years. If he has a chance to take a job, should he take it, or should he go to college for two years?"

Go to college	90%
Take the job	3
Don't know	6
Not ascertained	1
Total	100%
Number of respondents	1310

three per cent thought the boy should take the job, but an additional seven per cent were unsure, feeling that it depended on the situation or the boy. The reasons given for going on to the two years of college again reflect a widespread belief in the occupational and income values to be expected from college work. There are a good many unelaborated assertions that two years of college is a "good thing" or is "necessary," but only a few (four per cent) explicit references to the broad, intellectual values of college.

TABLE II-6

"Why do you say that?"

Respondents who answered that the boy should go to college gave the following reasons:	
More education is good or necessary, not ascertained why; might be able to go further	53%
Better job with some college; more interesting work or opportunities for boy with some college (income not mentioned)	37
Better income with some college; more income later	7
College gives broader viewpoints, values; matures or improves character, personality	4
College people have higher status or prestige	*
Other	1
Not ascertained	5
Total	**
Number of respondents	1177
Respondents who answered that the boy should take the job gave the following reasons:	
No more education needed; high school diploma is enough; two years of college doesn't make enough difference	33%
Should work awhile and mature; would get more out of college later	18
Job security; unemployment high	12
Income for self; to be self-supporting; "marriage"	10
Income for others; to help out at parental home	2
Other	15
Not ascertained	14
Total	**
Number of respondents	46

A strong majority of the population also believe that a girl should continue into college if she has the chance, but the number advising that she take the job is much higher than it is for the boys. Almost a quarter either say that she should take the job or are uncertain which course she should take. The values seen in college work for a girl do not differ greatly from those for boys although there is somewhat greater stress on noneconomic values, including the opportunity to meet a "better choice" of friends.

TABLE II-7

"How about a girl? Should she take the job, or should she go to college for two years?"

Go to college	77%
Take the job	14
Don't know	7
Not ascertained	2
Total	100%
Number of respondents	1310

TABLE II-8

Respondents who answered that the girl should go to college gave the following reasons:	
More education is good or necessary, not ascertained why; might be able to go further	43%
Better job with some college; more interesting work or opportunities for girl with some college (income not mentioned)	36
College gives broader viewpoints, values; matures or improves character, personality; to be good wife or mother	11
Better income with some college; more income later	5
Better choice of friends, contacts, or mate in college	3
College people have higher status or prestige	*
Other	2
Don't know	*
Not ascertained	7
Total	**
Number of respondents	1003

Respondents who answered that the girl should take the job gave the following reasons	
No more education needed; high school diploma is enough; two years of college doesn't make enough difference	57%
Income for self; to be self-supporting; "marriage"	24
Should work awhile and mature; would get more out of college later	6
Job security; unemployment	3
Income for others; to help out at parental home	3
Other	9
Not ascertained	9
Total	**
Number of respondents	182

We do not find any differences between the various segments of the population when we compare their attitudes toward the desirability of college training for boys; all groups approve in very high proportion. But we do see some differences when we consider girls. In general people of low income and educational status are less likely to see the advantages of college for a girl than are people of higher status. To be sure, a large majority of them favor college over a job, but a significant fraction of these less advantaged people are not convinced. An interesting reversal of this general tendency appears when we compare white and Negro respondents. Although clearly below the national average in income and educational attainments, Negroes are more inclined to feel that the girl should go on to college than are Whites.[17]

The importance which people attach to college training, as evidenced by their answers to these questions, is associated with their belief that advanced education is more important now than it has been in the past. We phrased our question in these terms:

> "Would you say it is more important for a boy or girl to go to college now than it was 20 or 30 years ago, or is it less important, or isn't there any difference?"

There is almost no difference of opinion on this question; virtually everyone agrees that college is more important now than it was a generation ago. For the most part this importance is associated with changes

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[17] A similar finding has been reported by Martin David et al. in *Educational Achievement--Its Causes and Effects*. Ann Arbor, Michigan: Survey Research Center, 1961. Monograph #23, pp. 79-80.

TABLE II-9

"Would you say it is more important now for a boy or girl to go to college than it was 20 or 30 years ago, or is it less important, or isn't there any difference?"

More important	96%
No difference	3
Less important	*
Don't know	*
Not ascertained	1
Total	100%
Number of respondents	1310

TABLE II-10

"Why do you think that?"

Respondents who answered that college was now more important gave the following reasons:

Technological changes; jobs require more skill and education nowadays	61%
Competition for jobs keener with automation; fewer jobs available	10
Education more important nowadays; can't get by without it, not ascertained why	9
Things are advancing so fast, need college education to understand what's going on; world is smaller now, need to know more	7
College education more commonplace now; more young people are college educated now	5
Cold war; international competition; patriotic reasons; ("Sputnik")	1
Other	3
Don't know	1
Not ascertained	10
Total	**
Number of respondents	1253

in the job market. There is widespread recognition of the increase in technical skill required now in many forms of employment. Some people (seven per cent) referred to the broader implications of a college education, feeling that an understanding of the modern world requires a higher level of training than was formerly necessary. This is a relatively sophisticated view, however, much less common than references to the increasing utilitarian value of college training.

In order to bring these evaluations of the importance of college from the problems of a hypothetical high school boy or girl to a more concrete level, we asked those of our respondents who had children of pre-college age what their educational expectations for these children were. Although some of the parents of very small children would not venture a prediction as to their child's ultimate educational attainment, it is clear that the aspirations of the general public for their children's education are high. In keeping with the attitudes expressed in the earlier questions, very few of these parents expect their children to have less than a high school diploma. Some of the older children have already dropped out of high school without finishing, of course, but in the views of the parents a high school diploma has become a virtually minimum aspiration. Indeed the majority of American parents say they expect their children to go on to college (Table II-11).

TABLE II-11

Proportion of Children of Different Age Levels
Whose Parents Expect Them to Attend College

Age of child	Boys	Girls
Five or less	71%	63%
Six to nine	69%	59%
Ten to twelve	76%	49%
Thirteen to sixteen	64%	53%
Seventeen or eighteen	49%	41%
Number of children	596	472

Several aspects of this table merit attention. It is apparent at once that parental expectations for sons are somewhat higher than for daughters at all ages. The difference is not great, but it persists into the youngest age levels. It is also clear from this table that the parental aspirations for young children are higher than those for the older ones. One may well imagine that the realities of school experience may force many parents to adapt their expectations for their children to a level less demanding than college, and that in the large this accepting of more modest goals would create the age trend shown in Table II-11. It must be remembered, however, that the parents of the young children are themselves younger on the average than the parents of the older children and that the trend of expectations may reflect a secular rise in educational aspirations. In view of the fact that younger parents have higher educational attainments than older parents, it is by no means unreasonable to conclude that they will have higher expectations for their children and that the demand for college education will increase as these children reach college age.

The more immediately important observation to be drawn from Table II-11, however, is the fact that parental expectations for their children who are approaching college age, their 17 and 18-year old sons and daughters, far outrun the current enrollment of the nation's colleges and greatly exceed the colleges' capacity to accommodate the demand.

Can we accept parents' aspirations for their children's education as any true measure of future demand for higher education? Are these expectations realistic? Out of the 60-70 per cent of children under five years of age who are expected to go to college, how many are likely to even apply for college in the years to come? We have no sure way of knowing, but the parents' own degree of certainty in their expectations of their children's college attendance provides a clue.

TABLE II-12

Degree of Certainty That Child Will Attend College	
Certain to go	26%
Fair chance	27
Slight chance	6
No chance	38
Don't know	*
Not ascertained	3
Total	100%
Number of children	1723

It is evident that a certain percentage of our respondents are far from confident when it comes to estimating their childrens' future educational attainment. Over 50 per cent of these children are thought to have only a "fair chance" or less of going on to college and of these, ten per cent are thought to have only a "slight" possibility of attending college. Perhaps because they perceive greater value in educating a boy and are consequently willing to provide more financial assistance toward the education of their sons, parents are somewhat more certain about the chances of college education for their sons than for their daughters.

TABLE II-13

Degree of Certainty That Child Will Attend College by Sex of the Child

	Boys	Girls
Certain to go	31%	22%
Fair chance	29	25
Slight chance	5	6
No chance	32	44
Don't know	*	*
Not ascertained	3	3
Total	100%	100%
Number of children	882	835

TABLE II-14

Degree of Certainty That Child Will Attend College by Age of the Child

	5 or less	6-9	10-12	13-16	17-18
Certain to go	23%	25%	27%	30%	33%
Fair chance	33	29	28	22	11
Slight chance	7	5	6	5	1
No chance	33	36	37	41	54
Don't know	1	*	*	--	--
Not ascertained	3	5	2	2	1
Total	100%	100%	100%	100%	100%
Number of children	538	389	298	360	138

A revised estimate of present and future demand for college education can be determined when you compare the certainty of parental expectations for children of different ages.

Over 70 per cent of the children between the ages of 17 and 18 who are expected to go to college are certain to attend college, according to their parents. This means approximately one-third of all boys and girls of this age are definitely expected to attend college now and in the near future. This figure corresponds closely to enrollment figures for the early 1960's. If we assume that most children in the "certain to go" category will be ready to enter college and that an undetermined number of children given a "fair chance" or a "slight chance" will also apply, the resulting total is higher than current levels of college attendance.

If we continue to speculate on enrollment increases over the next five years, we find this estimate increasing. Despite the fact that some of the parents of 13-16 year old children are estimating chances of college attendance four to five years hence, we find that parents are quite certain that 30 per cent of these children are likely to enter college. At the same time, the percentage given a fair chance jumps from 11 per cent for the current 17-18 year olds to 22 per cent for 13-16 year olds.

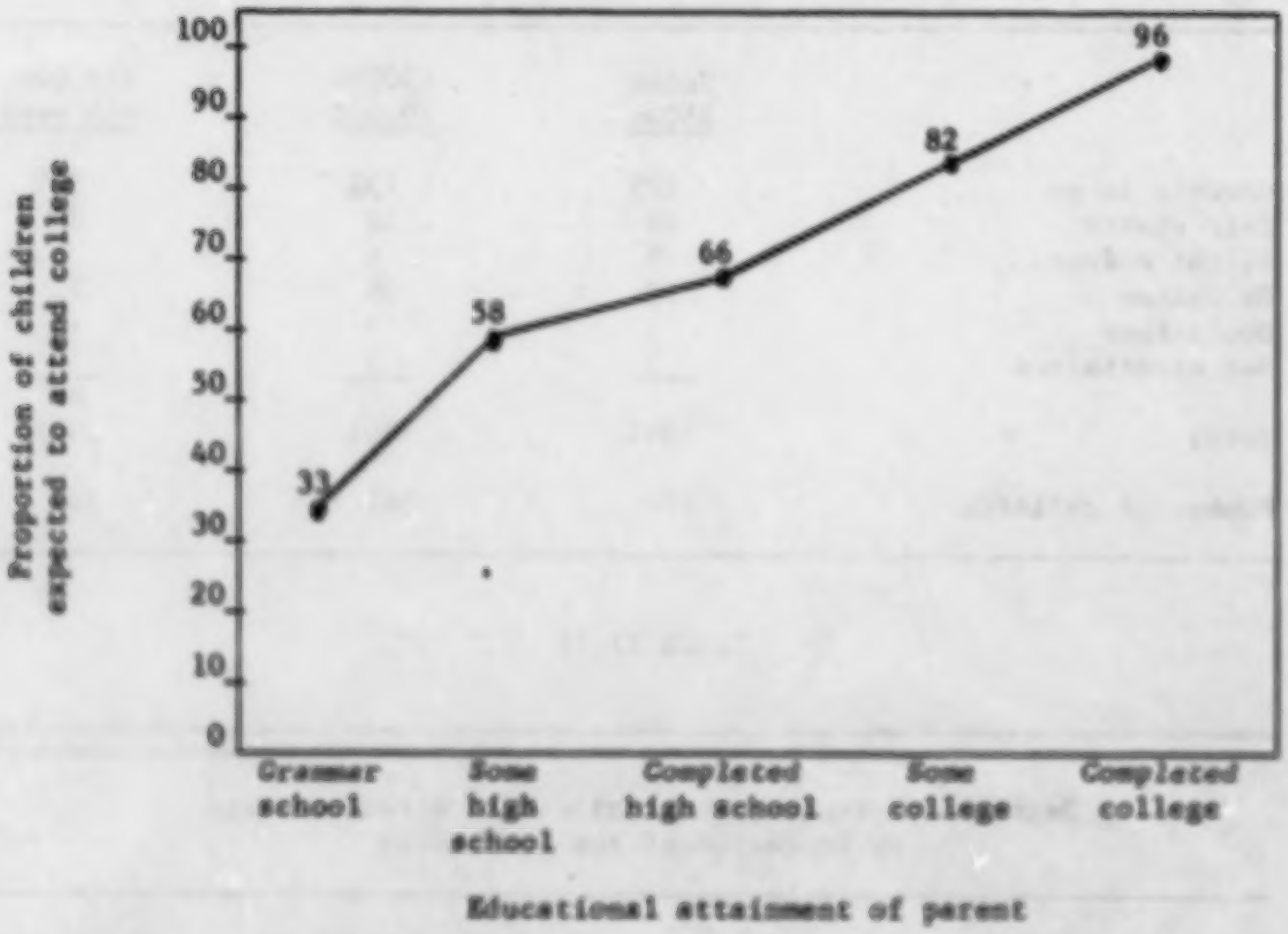
These speculations on future enrollments should serve to indicate the increasing trend toward a higher percentage of college-age youth seeking a college education. The evidence suggests that we are moving from the current situation in which we are admitting around one-third of our college-age people to a period when closer to 50 per cent of our youth will be expecting a college education.

The influence which the circumstances of the parents have on their aspirations for the education of their children is clearly seen when we compare parents from different walks of life. Our earlier supposition that the rising educational attainments of parents will result in increasing aspirations for their children is dramatically supported. Those parents who did not themselves go beyond grammar school say they expect one out of three of their children to go to college, but those parents who have themselves graduated from college expect all of their children to go to college. Indeed one in eight are already anticipating that their children will go beyond a four year diploma. As Figure II-1 demonstrates, the educational aspirations of parents rise sharply with their own achievements.

As one might expect, the same rising curve of educational expectations is found when parents of different occupations and income levels are compared. Parents in professional or technical occupations expect nearly all of their children to go to college; among laborers and service workers, the proportion is near 30 per cent. The proportion of children of parents of income over $15,000 expected to go to college is over 90 per cent; this proportion declines sharply as we move down the income scale. It is noteworthy that nearly half of all the children who had

FIGURE II-1

Educational Expectations for Children
of Parents of Differing Educational Attainments



already left school by age eighteen were located in families reporting less than $3000 a year income, an income bracket containing only about a fourth of all families. Negro parents are not as hopeful as white parents for the education of their children, but these racial differences are not nearly as large as the differences between parents of contrasting income or occupational levels. Protestant and Catholic parents differ very little in their expectations for their children's education.

If we consider the degree of certainty regarding sending children to college among various income and education groups, we find, as might be expected, much less certainty among our lower income-lower education groups (Tables II-15 and II-16). The disadvantage of a child of a low-income and poorly educated family is dramatically evident.

TABLE II-15

Degree of Certainty That Child Will Attend College by Income of the Respondent

	Under $5000	$5000-10,000	$10,000 and over
Certain to go	12%	23%	50%
Fair chance	24	32	23
Slight chance	9	6	1
No chance	53	36	22
Don't know	1	*	--
Not ascertained	1	3	4
Total	100%	100%	100%
Number of children	470	841	364

TABLE II-16

Degree of Certainty That Child Will Attend College by Education of the Respondent

	Grade school; some high school	Some high school; high school; high school plus non-academic	Some college; college degree
Certain to go	12%	25%	54%
Fair chance	22	33	27
Slight chance	8	4	3
No chance	56	35	11
Don't know	*	--	1
Not ascertained	2	3	4
Total	100%	100%	100%
Number of children	710	569	406

When we now summarize our evidence regarding the public's evaluation of higher education and their expectations for their own children, we see that on the hypothetical level virtually everyone believes that a child who can should go to college, but on the level of actual expectations there are many parents who do not expect their own children to reach this level. This discrepancy between aspiration and expectation is strongly associated with lack of educational attainment on the part of the parents and with their economic circumstances. It is a reasonable assumption that as the educational level and the real income of the population continue to rise, there will be a corresponding increase in the demand for college education for succeeding generations.

The Value of College Education

The preceding pages have demonstrated the very strong appeal which college education has for the American public. We now undertake to ascertain, in broad terms at least, what aspects of the college experience give it such high value in the minds of the population.

We know from earlier research as well as from common-sense observations that many Americans think of the value of higher education in directly utilitarian terms. They have been told repeatedly that every year of schooling adds to an individual's expected income, and they can see all about them that college training is associated with job preferment. It is not surprising, then, to find in the general questions which opened our interview that when our respondents were asked why they thought a boy or girl should continue in school they commonly answered with some reference to an improvement in his prospects for a desirable job and superior income.

Important as the job training aspects of college are, it need hardly be said that there are other values in higher education. These have been variously described by philosophers and educators over the past two thousand years; in general their emphasis is on what may be identified as intellectual growth. It is impossible, of course, to ask the general public to consider the value of higher education in a philosopher's terms. Few people are capable of discussing questions at this level; they must be approached in terms which are familiar to them. We sought to assess the public's recognition of the nonwork-related values of college by asking them to rate the importance of several simply stated aspects of the college experience. Our specific question read as follows:

> "Suppose you were sending a son (daughter) to college. Here are some of the things people say they want their sons to get out of college. Which one do you think is most important? Next most important? Third most important, etc.?"

1. Training for a good job after he graduates.
2. Chance to take part in sports and athletics.
3. Chance to meet a better class of friends.

4. Learn how to be sociable and get along with people.
5. Increase his understanding of the world and himself.
6. Develop his interest in good books, music, and art.

The order which our respondents gave to these alternatives, first as referring to boys and then to girls, is seen in Tables II-17 and II-18.

TABLE II-17

"Suppose you were sending a son to college. Here are some of the things people say they want their sons to get out of college. Which one do you think is most important?"

Training for a good job after he graduates	72%
Increase his understanding of the world and himself	21
Learn how to be sociable and get along with people	4
Develop his interest in good books, music, and art	1
Chance to meet a better class of friends	*
Chance to take part in sports and athletics	*
Don't know	*
Not ascertained	2
Total	100%
Number of respondents	1310

TABLE II-18

"Suppose you were sending a daughter to college. Which of these same things would you say is most important for a girl to get out of college?"

Training for a good job after she graduates	56%
Increase her understanding of the world and herself	21
Learn how to be sociable and get along with people	10
Chance to meet a better class of friends	7
Develop her interest in good books, music, and art	3
Chance to take part in sports and athletics	*
Don't know	1
Not ascertained	2
Total	100%
Number of respondents	1310

We do not attach too great weight to the absolute values which are presented in these tables as they are undoubtedly influenced by the particular wording of the alternatives offered. The order of choice does have interest, however, especially as we compare the selections made by different sections of the total population.

The expected predominance of job training as a value of higher education is very clearly expressed, more strongly for boys than for girls, but substantially more often given first priority than any other alternative in either case. The second position is given to the purpose which most nearly expresses general intellectual values, "to learn to understand the world and one's self." The two alternatives which bear on the social attributes of college life are seen as having little significance for boys, but are given greater weight for girls. The artistic and cultural values of developing an interest in "good books, music, and art" are given a very low rating for both boys and girls. It is of interest that while intercollegiate sports seem to attract a great deal of interest from the general public, virtually no one in our sample saw the opportunity to participate in sports as an important reason for a young person to go to college.

There can be little doubt that the dollars and cents value of a college education has been almost universally impressed on the American public, and for most of the public this is the preeminent value of college. We see, however, that there is a minority of the population who give other values a prior place and we may now ask who these people are.

In considering what they thought a boy should "get out of college," about a fifth of our respondents gave first place to the intellectual value of a broader understanding of the world and one's self. This indeed was the only value given more than slight notice after the predominant job training alternative. These people were found in all strata of society but very much more frequently in some than in others. Protestants and Catholics do not differ in the relative importance they attach to the job training and understanding aspects of college. Neither are there substantial differences between Negroes and Whites. It is the people in the high educational brackets, high income levels, and high status positions who attach highest priority to the intellectual value of college. Indeed, among that small fraction of the population who have themselves graduated from college the value of a broad understanding is more often given first priority than is training for a job.[1]

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[1] There is an impressive difference in these evaluations between college graduates and people who have attended college but not completed a degree. The latter are well above the average in the proportion who give "understanding the world and oneself" their highest rating (30%) but they fall far short of the college graduates (51%) in this respect. We are left with the question of whether the extra years of college experience changed the attitudes of those who graduated or whether the graduates had a stronger disposition toward the nonutilitarian values of college even before they entered upon college work.

When we examine the reasons people see "for sending a girl to college," we find a similar, although not identical, ordering of the alternatives given, but a considerable difference in the importance attached to each of them. The emphasis on job training is clearly less strong than it is for boys although it still exceeds the importance given the other reasons for attending college. The values which are seen as higher for girls than boys are those having to do with the social aspects of college life. Learning "how to be sociable and get along with people" is widely seen as a significant aspect of a girl's education. The social graces have not become entirely passé. Those people who attached importance to the "chance to meet a better class of friends" were thinking for the most part of the girl's marriage opportunities. It is a commentary on the public's concepts of sex roles that our respondents rarely associated this reason for going to college with boys. They were considerably more likely to evaluate a boy's social contacts in college in terms of their usefulness in his later career.

The distribution of attitudes regarding the value of college for girls in the various segments of the total population follows the same pattern we have seen in relation to boys. The highly educated and the occupationally and economically advantaged are considerably less likely to place major emphasis on job training than are the rest of the population. They do not differ, however, in their evaluation of the social reasons for a girl to go to college. These values are about evenly assessed by all the major social groupings.

As we have indicated above, perceptions of the personal value of a college education vary among people of different income and education groups. Since level of income and education are positively related, we may ask to what extent these perceptions are determined by a man's schooling as opposed to being the accompanying features of varying degrees of financial success? How much of a person's appreciation of higher education is attributable to his own educational experiences rather than the influence of his degree of success in the financial world? We attempt to answer this question by examining the attitudes of respondents grouped by both income and education (Tables II-19 and II-20).

It is readily apparent that respondents' evaluations of the personal benefits of higher education vary by both income and education. There seems to be an independent contribution from both of these factors in determining attitudes toward higher education, at least on this question. For both boys and girls, people tend to rank "job training" first and "understanding of the world and himself" second in terms of important reasons for attending college. But the percentage of people ranking these reasons one and two varies by education. As one goes from grade school or less up to a college degree there is an increase in the percentage of people ranking "understanding. . . ." first and a decline in the number ranking "job training" as most important. This tendency is found for both high income people, i.e., those over $7500 income, and for lower income people, i.e., those under $7500 income. If one compares income groups on this question, it is obvious that with one exception, regardless of the

TABLE II-19

Most Important Reason for Sending a Boy to College Given by Income and Educational Groups

	Under $7500		
Reasons	None; grade school; some high school plus nonacademic	Some high school; high school; high school plus nonacademic; some college	College degree
Training for a good job after he graduates	78%	77%	52%
Increase his understanding of the world and himself	10	20	44
Learn how to be sociable and get along with people	7	2	2
Develop his interest in good books, music, and art	1	1	--
Chance to meet a better class of friends	1	*	2
Chance to take part in sports and athletics	*	--	--
Don't know	3	--	--
Total	100%	100%	100%
Number of respondents	356	429	41
	$7500 and over		
Training for a good job after he graduates	82%	72%	44%
Increase his understanding of the world and himself	17	25	55
Learn how to be sociable and get along with people	1	3	1
Develop his interest in good books, music, and art	--	--	--
Chance to meet a better class of friends	--	--	--
Chance to take part in	--	*	--
Don't know	--	--	--
Total	100%	100%	100%
Number of respondents	66	265	75

TABLE II-20

Most Important Reason for Sending a Girl to College Given by Income and Educational Groups

	Under $7500		
Reasons	None; grade school; some high school plus nonacademic	Some high school; high school; high school plus nonacademic; some college	College degree
Training for a good job after she graduates	65%	60%	45%
Increase her understanding of the world and herself	10	21	40
Learn how to be sociable and get along with people	11	8	8
Chance to meet a better class of friends	9	7	5
Develop her interest in good books, music, and art	3	4	--
Chance to take part in sports and athletics	*	*	--
Don't know	2	*	2
Total	100%	100%	100%
Number of respondents	356	427	40
	$7500 and over		
Training for a good job after she graduates	62%	49%	27%
Increase her understanding of the world and herself	20	29	54
Learn how to be sociable and get along with people	12	11	11
Chance to meet a better class of friends	3	7	8
Develop her interest in good books, music, and art	3	4	--
Chance to take part in sports and athletics	--	--	--
Don't know	--	--	--
Total	100%	100%	100%
Number of respondents	66	265	73

education level of the respondent, people with higher incomes are more likely to rank "understanding of the world and self" as number one in importance than are lower income people. This situation is true for both boys and girls.

In order to close the circle of attitudes regarding the value of higher education for the individual student we sought to elicit from our respondents whatever negative feelings they might have regarding college education. We undertook to do this by asking whether they thought there was any respect in which young people changed for the worse as the result of their college education. The question read as follows:

> "Of course, most young people change during college. They are different when they come out than when they went in. In some ways they are better, in some ways they are not so good. Are there any ways you think young people are not so good after going to college?"

It is probably not surprising or very significant that 42 per cent of our respondents found something to criticize about people who have been to college. Our question invited this type of answer. The more interesting outcome of the inquiry was the specific content of the criticism offered. As Table II-21 demonstrates, the attributes of former college students which the public finds most objectionable are their superior and condescending attitudes. Two-fifths of the people who saw anything to criticize in college students objected to what they took to be their snobbishness and egotistical manners. There was also a significant concentration of comment regarding their presumed immorality and shallowness. In contrast, the number of people who reflect the accusation occasionally heard from critics of higher education, that the colleges are hot beds of political radicalism, is very small indeed.

TABLE II-21

"Of course, most young people change during college. They are different when they come out than when they went in. In some ways they are better, in some ways they are not so good. Are there any ways you think some young people are not so good after going to college?"

Some ways not so good	42%
No, no ways not so good	35
Don't know	22
Not ascertained	1
Total	100%
Number of respondents	1310

TABLE II-22

"What do you have in mind?"	
Respondents who answered that young people are in some ways not so good gave the following reasons:	
Intellectual attitudes: snobbish condescending, egotistical	38%
Immoral behavior: sexual mores; drinking gambling, illegal acts, swearing, smoking, undesirable associates	15
Goals: expect too much afterward--money; don't expect to work; something for nothing	14
Moral values: breakdown of thinking regarding right and wrong ways of parents	8
Social life frivolous; not serious minded	6
Spiritual values: doesn't believe in God, doesn't go to church, atheistic beliefs	6
Ideological viewpoint: turn pink or red; become socialistic or communistic, lost faith in capitalism, free enterprise; "radical"	3
Other	13
Don't know, not ascertained	11
Total	**
Number of respondents	534

On balance the most favorable opinions of the effects of college on college students are found among those people with the lowest and highest educational achievements (Table II-23). Interestingly enough the most unfavorable ratios of approval and disapproval appear among those people who went from high school into some form of nonacademic training. One may wonder if these were not upward mobile people who were not able to pursue the usual educational program beyond high school and tend to resent the good fortune of those who were able to go on to college.

Summary

The evidence that young people who go to college fare differently in the world from those who do not is impressive. How much of this difference can be attributed directly to the college experience is difficult to say, certainly not all of it. But it can scarcely be doubted that a college

TABLE II-23

Opinions of Changes in Young People After Going to College Among Educational Groups

"Are there any ways some young people are not so good after going to college?"	Education Grade school; none	 Some high school	 Some high school plus non-academic	 Completed high school	 Completed high school plus non-academic	 Some college	 College degree
Some ways not so good	33%	35%	53%	44%	58%	55%	49%
No, no ways not so good	30	36	29	39	30	36	43
Don't know	35	28	18	17	11	8	5
Not ascertained	2	1	--	--	1	1	3
Total	100%	100%	100%	100%	100%	100%	100%
Number of respondents	393	221	51	245	115	152	120

education adds something to a young man or woman's ability to compete in contemporary American society. It also produces changes in attitudes, interests, and values which may have no direct economic significance but may nevertheless have far-reaching consequences for the individuals concerned and for the society into which they move.

Although the general public does not know the statistics on which these statements are based it is almost universally convinced that education at the college level is "a good thing." For most of these people it is a good thing because it improves a person's ability to achieve high occupational and economic status. It is widely believed that the demands for technical training are rising and that the importance of a college education is greater than it has ever been before. The noneconomic values of an advanced education have only secondary significance with the majority of the population although they have much greater salience with those people who have themselves attended college.

The desirability of a college education is so widely accepted in the population that it is impossible to find any occupational, religious, racial, or other subgroup that deviates significantly from the national average. It is true that people whose own educational achievements are modest are somewhat less clear as to why a boy should stay in school rather than take a job but even among these people the perceived value of additional schooling is generally high.

This high evaluation of a college education is reflected in the aspirations of parents for their own children. If all the young people whose parents say they "expect" them to attend college were actually to present themselves on the nation's campuses the colleges would be inundated. The effective demand is likely to be a great deal smaller, partly because some of these children will not qualify for college entrance and partly because of economic considerations. Even on the basis of a minimum estimate, however, it is clear that the pressure on the colleges will rise and that their capacities must be greatly expanded if this demand is to be met.

The history of education in this country has been a history of rising levels of aspiration. A high school education which was unusual a few generations ago is now attained by two-thirds of the nation's youth. A college education which at the beginning of this century was reserved for the very few is now sought by one young person of every three. There is every reason to believe this trend will continue. The belief is already widely expressed among the population that every qualified child has a "right" to a college education. This belief is not typically accompanied by any clear perception of how society is to make this achievement possible but it would not be immoderate to predict that this attitude will grow in strength and that society will have to find a way to respond to it.

CHAPTER III

SOCIAL VALUES OF HIGHER EDUCATION

While it is not difficult for the ordinary citizen to understand the value of a college education to himself or to his children, a value which, as we have seen, he tends to assess in dollars and cents terms, it requires a certain breadth of perception to appreciate the values which a strong program of advanced education has for society as a whole. It is clear enough to those who think in terms of the total requirements of a changing society that the demand for an increasingly highly trained citizenry is rising. But to the common man who thinks primarily of his own immediate opportunities and responsibilities, this may be much less apparent.

To the social theorist and planner the past twenty years have brought two great challenges in the area of higher education. The first is the shift in the basic utilization of the labor force from the production of goods to the production of services. A combination of interrelated forces is changing the nature of the economy in ways which increasingly demand services of a highly technical kind, services which can only be provided by highly trained people. The second challenge comes from the international sphere. After generations of regarding itself as the most innovative and advanced industrial society in the world, this country has suddenly found itself badly outdone in outer space. Grave questions of national security are now dependent on the national ability to compete in the highly technical world of rockets, missiles and space vehicles. The production of engineers and scientists by the nation's colleges is no longer a matter of interest only to private employers.

These recent developments are of course superimposed on the long standing problem of educating a citizenry which can play its prescribed role in a democratic society. The Founding Fathers were quite explicit in their expectation that the Republic should be composed of people sufficiently well informed to protect its and their own best interests. This remains an article of faith on the American scene today and its realization remains a major objective of the nation's educational investment.

It is certainly not possible to state in any precise way what the optimal distribution of educational achievement in this country at this time should be in order to meet these broad social requirements. The evidence is clear, however, that this optimal level has been rising steadily and it seems apparent that it must rise still further.

Anticipated Changes in the Composition of the Work Force

The analysis of trends over the past fifty years gives a basis for projections of the anticipated future supply and demand for personnel of various educational levels.

One of the more elaborate projections of this kind comes from Havighurst (1960).[1] Using a modified census system of occupational groupings, Havighurst designed Tables III-1 and III-2 to demonstrate the changes in the percentages of people in various occupational classes over the years as well as to indicate probable future trends. Occupational classes 1, 2, and 3 include job classifications requiring at least some college training. The remaining classes cover occupations of a skilled or semi-skilled nature for which college training is less imperative. It is evident from Table III-1 that from 1910 through 1950 occupational classes 1, 2, and 3 have been expanding while all others have been declining. Making certain assumptions based on past experience, Havighurst then extrapolates these figures in Table III-2 to estimates of the demand for college trained people in 1970 and 1980. According to these projections, the need for college trained people will be increasing not just as a function of population changes but rather as a result of increasing demand for personnel within occupations requiring college training.

Havighurst's tables provide a rather general overview of probable developments in the demand for college trained people in the future. The majority of the working population is and will continue to be engaged in service-producing activities rather than in goods-producing sectors. Support for this conclusion is found in data from the U.S. Department of Labor (Table III-3). As in Havighurst's projections, the increasing rate of growth in jobs with college preparation as a prerequisite is quite evident.

The Demand and the Supply

Society's need for people with college training is increasing. The question remains whether society is now investing sufficient resources to maintain the present growth rate or perhaps to accelerate it. Furthermore, is the present composition of this investment the optimal one? Is the present system producing enough engineers, doctors, and scientists for future economic growth? Data from a number of sources are relevant here.

In the area of medicine the future outlook is rather bleak. The nation's medical schools are not graduating enough new doctors to keep pace with the population increase. Dr. William H. Stewart estimates that to maintain even the present ratio of physicians to population will require 335,000 physicians in 1975.[2] This is 11,000 more than we

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[1] Havighurst, Robert J. American Higher Education in the 1960's. Columbus, Ohio: Ohio State University Press, 1960.

[2] Stewart, William H., M.D. "Health Manpower: An Illustration" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

TABLE III-1

Occupational distribution by socioeconomic class in 1910, 1930, and 1950[a]

Occupational Class	Per cent of males			Per cent of females		
	1910[b]	1930	1950	1910	1930	1950
1. Architects, physicians, lawyers, etc.	1.2	1.5	1.4	0.2	0.4	0.3
2. Proprietors, officials and managers in manufacturing; bankers, stock-brokers, engineers, scientists, clergymen, college teachers, state and federal government officials, etc.	2.4	2.7	4.8	0.9	1.6	1.9
3. School teachers, musicians, other professions, trained nurses, real estate and insurance agents, retail merchants, salesmen, city and county officials, other proprietors and managers, semi-professional occupations, owners of large farms, etc.	11.9	11.5	17.4	13.1	16.8	15.1
Subtotal Classes 1, 2 and 3	15.5	15.7	23.6	14.2	18.8	17.3
4. Clerks and salespeople in offices and stores, stenographers, foremen, locomotive engineers, restaurant and tavern owners, owners of medium-sized farms, etc.	17.2	19.4	15.8	16.9	31.6	35.2
5. Skilled workers, policemen, firemen, mail clerks and carriers, delivery men, cooks, farmers with mortgages, small farm owners, tenant farmers, etc.	25.2	25.6	24.7	18.3	11.7	7.3
6. Semi-skilled workers, factory operatives, truck drivers, miners, etc.	18.0	18.8	29.5	15.7	18.6	30.5
7. Unskilled laborers, farm laborers, domestic workers, etc.	24.1	20.7	6.5	34.9	19.4	9.8

[a] Source: Havighurst, Robert J. American Higher Education in the 1960's. Columbus, Ohio: Ohio State University Press, 1960.

[b] Age distribution for 1910 is 25-44 years; for 1930 and 1950, 25-34 years.

TABLE III-2

Estimated occupational distribution of young men and women, 1960-1980[a]

Occupational Class	Per cent of males				Per cent of females	
	1950	1960	1970	1980	1950	1980
1.	1.4	1.5	1.5	1.5	0.3	0.4
2.	4.8	6.5	7.8	9.0	1.9	2.0
3.	17.4	19.0	21.0	23.0	15.1	15.0
Subtotal	23.6	27.0	30.3	33.5	17.3	17.4
4.	15.8	15.0	14.8	14.5	35.1	35.1
5.	24.7	23.5	21.4	19.5	7.3	7.0
6.	29.5	28.5	28.0	27.5	30.5	30.5
7.	6.5	6.0	5.5	5.0	9.8	10.0

[a]Source: Havighurst, Robert J. American Higher Education in the 1960's. Columbus, Ohio: Ohio State University Press, 1960.

TABLE III-3

Occupational distribution of employed population, United States, 1910, 1960, and 1970[a]

Type of occupation	Per cent of employed population, by year		
	1910	1960	1970
Total	100	100	100
White Collar	22	42	45
Professional and technical	5	11	13
Proprietary and managerial	7	11	11
Clerical and sales	10	20	21
Blue Collar	37	37	36
Skilled	12	13	13
Semiskilled	14	18	18
Unskilled	11	6	5
Service	10	12	13
Farm	31	9	6

[a]Source: Bureau of Labor Statistics, U. S. Department of Labor.

can hope to graduate from our present programs. If we are to reach this required level of 335,000 physicians, it will be necessary to increase by 1975 the number of medical school graduates from our current figure of 7500 to 11,000 a year.

This 40 per cent increase in the capacity of our medical programs can to some extent be handled through an expansion of existing schools. Stewart estimates that an additional 1000 students can be accommodated in already established programs. The remaining gap will have to be absorbed through the creation of new medical schools. With the average medical school class consisting of around 100 students, the education of the additional 2500 students will require the building of from twenty to twenty-five schools.

The costs of establishing a new medical school are substantial. In addition to expenditures for basic science buildings, estimated to cost around five million dollars, there must be a teaching hospital, generally of a 400 to 500 bed capacity, associated with the program. If this facility does not already exist, the establishment of such a medical complex may cost as much as ten to fifteen million dollars.[3]

There has been some development of new medical schools over the past few years. Since 1950 there have been seven new four-year medical schools created. The goal of the Surgeon General's Consultant Group on Medical Education is twenty new medical schools by 1970. It should be obvious that if this goal is to be reached, the rate of establishment must increase greatly over the next decade.

The picture with regard to the number of dentists is even less encouraging. At least up to this point, the number of physicians has been keeping pace with our population growth. Over this same period we have been experiencing a relative decline in the number of dentists. Stewart estimates that the number of dentists per 100,000 population dropped from 59 to 56 between 1930 and 1960. If the current rate of producing dentists continues, by 1975 this number will have declined to only 50 per 100,000 persons. To maintain just the present population ratios would require increasing the graduation rate of dentists from 3200 to 6200 a year. Even with expansion of current schools, this would mean the establishment of another twenty dental schools.

As with professional occupations in general, it can be demonstrated that there is an ever increasing demand in the economy for research scientists and engineers. The Bureau of Labor Statistics estimates that by 1970 this country will require around 550,000 scientists and 1,485,000 engineers. At the current graduation rate, however, these needs will not be fulfilled, particularly in the case of engineers. According to figures cited by Mills (1962), "A requirement of 1,485,000 engineers by 1970 implies an increase in engineering baccalaureates from the 38,000 engineering degrees granted in 1960 to an average of about 80,000 a year over the next ten years, when both additional requirements and replacements for death and retirement are taken into account."[4] This required increase is highly unlikely without drastic changes in current enrollment rates in engineering programs. Since 1957, there has been a decline in freshmen engineering enrollments which will limit the number of engineering graduates to no more than 40,000 through at least 1964. To offset this decline and still meet projected needs, there would have to be an average of more than 100,000 engineering baccalaureates per year between 1965 and 1970. An increase of such dramatic proportions seems hardly possible.

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[3] Ibid.

The outlook for physical scientists is more hopeful. The figure of 550,000 scientists by 1970 means an annual average of 30,000 new scientists per year over the next ten years. According to Mills' figures, to maintain the proportion of scientists with doctorates at 25 per cent will require about 7500 doctoral graduates a year as opposed to the current rate of 6000. With the present trends this figure will be reached. This will, however, only be maintaining the present proportion of scientists with doctorates without expanding this figure.

These areas of increasing social need for highly trained personnel are only illustrative. We have said nothing about the dramatically expanding need for trained technicians, social scientists, elementary, high school, and college teachers, social workers, nurses, and other professional and sub-professional workers. There is little doubt that the nation is approaching in the near future a critical shortage of professionally trained people in a number of vital sectors of our economy.

To that small fraction of the public who concern themselves with the kinds of statistical evidence we have just reviewed, the increasing disparity between social needs and educational capacities carries the clear implications of impending crisis. It remains to be seen, however, whether this sense of urgency is shared by the general public. We know that most Americans place high value on the personal advantages of higher education. We now ask, "How aware is the general public of the value of higher education to the society as a whole?"

Public Awareness of the Social Value of Higher Education

Aside from the direct gains from their own education and the education of their children, do people perceive the more indirect advantages of having a generally high level of education in society as a whole? Do they comprehend the relationship between the social and economic progress of society and the level of education of the people? To determine whether such a distinction is made, we addressed a number of questions to our respondents to assess the extent to which they saw more college education as "good for the country."

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[4] Mills, Thomas J. "National Requirements for Scientists and Engineers: A Second Illustration" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

Despite the fact that the interviewers were instructed to emphasize the societal reference in these items, it is evident that over half of the people in our sample were unable to think in terms of the value of education to the country as a whole. The vast majority of people on all three questions asked were in favor of higher education; but when probed for reasons of a non-personal nature, close to half of those in favor of more education were unable to provide relevant reasons for their answers.

Respondents were first asked whether the currently high national expenditures on higher education were justified or whether it would be better not to have so many young people go to college. The exact wording of the question and the results are shown in Table III-4.

TABLE III-4

"This country spends more money on college education than any other country in the world. Do you think this is a good thing for our country to do, or would it be better not to have so many young people go to college?"

This is a good thing for our country to do	88%
It would be better not to have so many young people go to college	5
Don't know	4
Not ascertained	3
Total	100%
Number of respondents	1310

It is obvious from Table III-4 that most people are in favor of our current large expenditures for higher education. Eighty-eight per cent feel this investment is "a good thing" while only five per cent feel fewer young people should go to college. When it comes to giving reasons why they feel large national expenditures are necessary, people are less positive (see Table III-5). Forty-four per cent of those who speak in favor of these high expenditures merely give simple affirmations of education as a "good thing" or restate the personal values of college education. Eleven per cent of these respondents either admit having no reason or give contradictory or ambiguous answers. Almost one half (48%) of these approving people offer socially relevant and significant answers, however, with

TABLE III-5

"Why do you think that?"

Respondents who answered that this a good thing for our country to do gave the following reasons:	
Education is a good thing, not ascertained why	44%
Better informed voters; for better citizens	16
To maintain world leadership; we have to keep ahead of Russia and Russia is stressing education; cold war reasons	8
We have to continue to improve our technology to compete with foreign countries (Japan, the Common Market, etc.)	4
Help keep down unemployment; population explosion--have to do something for young people	2
If more people had more education there would be fewer social problems, e.g., less juvenile delinquency; crime	2
Other	16
Don't know	1
Not ascertained	10
Total	**
Number of respondents	1157
Respondents who answered it would be better not to have so many people go to college gave the following reasons:	
We should educate selectively, only the brightest should go to college; we give too many people college degrees; college degree doesn't mean as much as it used to	49%
Technical or vocational training is needed more than college; other skills needed more	10
You can't have everybody educated, somebody has to do the menial work	6
Higher education just leads to silly notions, radical ideas, Godlessness; makes young people lazy	3
Taxes would be lower; taxpayers are overloaded; students and their families should bear the cost	3
Government money is needed more for other things, e.g., defense, unemployment; other areas more important than education	3
Other	20
Don't know	2
Not ascertained	10
Total	**
Number of respondents	68

32 per cent giving such responses as "makes better informed voters," "maintains world leadership," etc. Sixteen per cent of the answers consisted of appropriate but much less frequently mentioned reasons and were therefore grouped under the other category.

Among the five per cent of the sample who felt that fewer young people should be educated, the majority of reasons given were relevant and appropriate answers to the question. Half of these people gave answers stipulating that greater selectivity is needed while other frequently mentioned answers included "technical or vocational training is needed more" and "somebody must do the menial work."

In order to press the issue of public expenditures on higher education even further, a question was asked about the value for the country of having even a larger number of students going to college (Table III-6).

TABLE III-6

"Some people think it would be a good thing for this country if more students could go to college than go now. What do you think about this?"

More students should go to college	82%
There should be fewer students going to college	5
We have about the right number going now	3
Don't know	4
Not ascertained	6
Total	100%
Number of respondents	1310

On this question the percentage of support drops from 88 per cent to 82 per cent. The same percentage of people, five per cent, feel fewer students should go to college, but an additional three per cent feel the right number of people are attending now, and the remaining 10 per cent either had no opinion or gave no clear answer.

As with the preceding question, people agreeing that more young people should go to college are rather vague about their supporting reasons (Table III-7). This time, though, among the general supporting statements is the feeling that everybody who wants to go should be able to go to college. Forty-three per cent of the responses were of this

TABLE III-7

"Why do you think so?"

Respondents who answered that more students should go to college gave the following reasons:	
Education is a good thing, not ascertained why; not enough going now; everybody that wants to go should be able to go	43%
Better informed voters; for better citizens	14
Help keep down unemployment; population explosion--have to do something for young people; help to get a better job, make a better living, not ascertained why	9
To maintain world leadership; we have to keep ahead of Russia and Russia is stressing education; cold war reasons	7
If more people had more education, there would be fewer social problems, e.g., less juvenile delinquency, crime	3
We have to continue to improve our technology to compete with foreign countries (Japan, the Common Market, etc.)	3
Other	15
Don't know	1
Not ascertained	10
Total	**
Number of respondents	1081

Respondents who answered that there should be fewer students going to college gave the following reasons:	
We should educate selectively, only the brightest should go to college; we give too many people college degrees, college degree doesn't mean as much as it used to	41%
Technical or vocational training needed more than college; other skills needed more	14
You can't have everybody educated, somebody has to do the menial work	13
Higher education just leads to silly notions, radical ideas, Godlessness; makes young people lazy	2
Taxes would be lower; taxpayers overburdened; students and their families should bear the cost	1
Other	26
Not ascertained	9
Total	**
Number of respondents	60

general nature. Again the rest of the reasons are distributed over such answers as "make better citizens," "help keep down unemployment," etc.

With a few percentage points difference, the five per cent of the sample in favor of fewer students going to school propose the same reasons as were presented in the preceding question. Over 40 per cent once again feel colleges should be more selective.

Finally a question was designed to assess the public's realization of the increasing importance of higher education as time goes on. Respondents were asked whether it was more or less important now for this country to have a large number of people going to college than it was 20 or 30 years ago (Table III-8).

TABLE III-8

"Would you say it is more important or less important for this country to have a large number of young people go to college now than it was 20 or 30 years ago, or would you say there isn't any difference?"

More important	89%
No difference	4
Less important	1
Don't know	6
Not ascertained	*
Total	100%
Number of respondents	1310

Once again the same high percentage of people in favor of continuing a strong emphasis on higher education appear to recognize the increasing need for higher education. And again five per cent of the people are less concerned about the need for higher education, feeling that college training is no more important or even less important than it was twenty or thirty years ago.

Among the reasons given for these attitudes, there appears a somewhat wider comprehension of the broader social questions at stake. Though some of the respondents still talked in terms of "one can't get a good job without college," many more talked in terms of the general problem of technological change, recognizing that society requires more well-trained and educated workers. Also a greater percentage of non-job-related answers were given including references to a need for general knowledge to keep up in the modern world, Cold War reasons, and the need to meet foreign competition.

There were only twelve people in our entire sample who felt that college education is less important now than it was twenty to thirty years ago. Of these twelve, only one or two offered any rationale for their position.

Table III-9

"Why do you say that?"

Respondents who answered that it was more important gave the following reasons:	
Technological changes: we need more trained skills and educated workers because of changes	35%
Things are advancing so fast, we need college education to understand what's going on; world is smaller now; need to know more; problems more complex	24
Untrained, uneducated labor force increases unemployment; fewer unskilled jobs available because of automation; can't get a good job without college	18
Cold war reasons: to defeat Communism (Russia, China, Cuba); to maintain our political or ideological leadership; to win space race	7
To meet foreign competition; more young people abroad are college educated now; to maintain our economic leadership	7
Population increase; postwar baby boom flooding job market with young people; not enough jobs for all young people	3
Other	6
Don't know	1
Not ascertained	14
Total	**
Number of respondents	1169

The very high majorities responding positively to the suggestion in these questions that higher education is "good for the country" give us further illustration of the generally favorable view which the bulk of the population has toward higher education. To be sure, many of our respondents were more clear as to the individual benefits of an advanced education than they were about the broad social advantages. When asked to give reasons why society as a whole benefits from having a strong college system or whether the country would be better off with even more college students, many of the answers are either of a vague affective nature with little informational content or they clearly revert to a restatement of the individual advantages of higher education. Almost half the reasons given, though, can be considered legitimate appraisals of the societal advantages of higher education. This means that for approximately half of those individuals in favor of more emphasis on higher education, constituting about 40 per cent of the total sample, the crucial stake of the country as a whole in higher education has some significant meaning.

The Social Value of Higher Education as Perceived by Various Segments of the Population

It appears from our three questions that an overwhelming majority of the public accept the assertion that a broad-scale program of higher education is "good for the country" although it is clear that for a good many people, this is a very unsophisticated opinion. As it might be expected with so little variation in the total sentiment, there were few large differences between the attitudes of subgroups within the public.

There is some tendency for lower income, more poorly educated respondents to express less readily an interest in seeing more children receive a higher education. This finding was present for all three questions but was especially significant in the comparison of the importance of higher education now as compared to twenty to thirty years ago. It is not that the lower income, lower educational groups are opposed to educating more young people, but rather that their answers make up a much larger percentage of the "don't know" answers. Rather than being positively against a greater country-wide emphasis on higher education, these people were not so sure of how they felt about the issue.

The factor of age also plays a visible role in relation to these attitudes. There is a clear difference between the responses of young people 18 to 24 years old and older people 65 and over on these issues with the former being much more favorable to more emphasis on higher education. The responses of the older age group are more frequently found not only in the "don't know" category but also in the negative category.

Grouping people according to their stage in the life cycle also points up differences in attitudes. The life cycle categories reflect various degrees of responsibility of educating children. On all three questions, people in the category of "45 or over, single, no children," where there is least personal concern with the education of children, are less frequently favorable to the extension of college education than are parents with children under 18 years of age, whose concern with education may be assumed to be immediate and personal.

The general acceptance of the desirability of maintaining or extending the present program of higher education is so widespread, however, that even when we consider the influence of all these personal and economic factors together we do not find very significant differences in the answers to the questions we have been considering. Thus, the over-65 year old people with low income and modest education are somewhat less likely to recognize the increasing importance of college education than younger people with high income and education. But even so, 75 per cent of them agree that college education is more important now than it was a generation ago and most of the remaining proportion consists of unfamiliarity with the problem rather than disagreement with the assertion. The number of people who specifically state that higher education is becoming less important is too small to consider in any of these population categories.

Summary

The outline of the future is clear enough to make it apparent that a shortage of trained personnel is developing at many of the nation's critical occupational levels. Projections of the national need for people in the occupations for which college training is essential show a growing demand running well beyond the current capacity of the colleges to fulfill. The rapidly changing character of the American economy and the increasing significance of developments on the world scene are putting pressures on our society which require an unprecedented expansion of advanced training for our citizenry.

The public at large has only a limited understanding of the significance of higher education to society as a whole although it perceives very clearly the importance of college training to the individual member of society. The public responds favorably to the general concept of a broad program of higher education, but a good part of this approval reflects the widely held conviction that education is "a good thing" for the individual; only less clearly is it seen as "a good thing" for society at large.

For that somewhat less than half of the population who do verbalize the value of higher education to the total society, the point of reference is usually to some aspect of domestic affairs. They recognize the importance of an informed citizenry in a democratic society; they are aware of the need to supply highly trained personnel to an increasingly technical economy; they refer to unemployment and other social problems as deriving in part from lack of educational achievement. An impressively small proportion of the public, however, seem to see the international implications of the nation's program of higher education. Some proportion near ten per cent make some reference to the international competition in space or to the necessity of maintaining a competitive position in trading with other countries. It is perhaps not surprising that these aspects of the nation's investment in higher education are not salient to the general public, but it is an instructive reminder of the fact that the public at large may be quite unconcerned with a problem with which the nation's leadership is greatly preoccupied.

We have found remarkably few expressions of doubt as to the value of higher education, either to the individual college student or to the total society. After generations devoted to building the most inclusive system of mass education in the world, the great majority of the American people accept its desirability almost without question.

We have not, up to this point, been dealing with the concrete problems of how the demand for higher education is to be met and how it is to be paid for. It may be that an educational program which seems highly attractive in the abstract may prove too burdensome when translated into tax levies. We will consider questions of the perceived need for expanded educational facilities and of their financing in the chapters which follow.

CHAPTER IV

PUBLIC AWARENESS OF THE DEVELOPING CRISIS

The high value which the American public has traditionally attached to formal education at all levels has led to the development of a system of higher education which in sheer numbers is without parallel. Despite this fact, this country is now approaching a period when its ability to accommodate the qualified young people who wish to go to college will not be adequate to meet the demand. Unless heroic efforts are made to expand both the physical plant and the faculties of the nation's colleges and universities, we will soon reach a situation, familiar in many European countries but hitherto not to us, in which college entrance will have to be restricted because of lack of capacity. The nature of this crisis and the public's perception of it are our concern in this chapter.

Projected Estimates of Future College Demand

One of the major contributing factors to the current and future pressures on our college system is the relatively high birth rate this nation has experienced since World War II. The problem is magnified by the fact that throughout the 1930's relative to the 1920's there was a decline in absolute numbers of births. As a consequence, even with an increasing rate of college attendance, the number of people attending college throughout the late 1940's and early 1950's was lower than might normally have been expected. The physical facilities and faculties were adequate at this time to handle the influx of new students. Now, however, we are facing the problem of providing higher education for the greatly expanded numbers of children born in the Post-War Period. It is evident from Table IV-1 that the dip in absolute number of births throughout the 1930's and early 1940's was substantial. Also obvious is the great increase in the number of births in 1947 associated with the extraordinary number of new family formations immediately following the war. Contrary to many expectations, the birth rate has remained high throughout the following period and though it has declined moderately in recent years it has never approached the low level of the 1930's.

In addition to the obvious effects of a rising population, there is the more important fact that the percentage of college-age people seeking admission to institutions of higher education is steadily increasing. Where a college education was once a reality for only a small select minority, we are rapidly approaching the point where 50 per cent of our eighteen-year-olds will be actively searching for additional academic training beyond high school. Table IV-2 clearly shows the rapidly rising percentage of young men and women who are high school graduates, college entrants, and college graduates. Table IV-3 provides more recent data on the rapid increase in the total college population, both male and female.

TABLE IV-1

Number of live births in selected years (adjusted for underregistration)[a]

Year Ending June 30	Births (In Thousands)
1910	2,777
1920	2,950
1925	2,909
1930	2,618
1933	2,307
1935	2,377
1940	2,631[b]
1942	2,789
1943	3,168
1944	2,989
1945	2,937
1946	2,873
1947	3,948
1948	3,658
1949	3,660
1950	3,638
1951	3,771
1952	3,859
1953	3,951
1954	4,045
1955	4,119
1956	4,167
1957	4,312
1958	4,313
1959	4,298
1960	4,279
1961	4,350
1962	4,259
1963	4,184

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[a] Source: U.S. Bureau of the Census Current Population Reports. Ser. P-25, No. 182, 278, September, 1958, and January, 1964, respectively, and Statistical Abstract of the United States, 1963.

[b] From 1940 on, includes Alaska and Hawaii in all years.

TABLE IV-2

Levels reached in the educational system[a]

Year	Per cent of the cohort of 17-year-olds who are high school graduates		Per cent of the cohort of 18-year-olds who are college entrants		Per cent of the cohort of 22-year-olds who are college graduates	
	Males	Females	Males	Females	Males	Females
1899-1900	5.1	7.6			3.1	0.7
1909-1910	7.1	10.4			3.5	1.0
1919-1920	13.3	20.3			3.6	1.9
1929-1930	26.2	31.8	15.6[b]	10.8[b]	6.9	4.6
1939-1940	48.0	53.6	18.1	12.7	9.5	6.7
1946-1947	47.0	53.8	41.0[c]	16.2		
1949-1950	56.1	61.8	28.8	17.5	27.4[c]	8.6
1953-1954	57.6	62.4	31.8	21.0	16.2	9.7
1955-1956	59.6	63.6	38.0	23.8	19.2	10.7
1957-1958			38.2	24.6	21.1	11.8
1958-1959			40.0	27.0		

[a] Source: Havighurst, Robert J., American Higher Education in the 1960's. Columbus, Ohio: Ohio State University Press, 1960.

[b] 1931.

[c] Inflated because of the large number of World War II veterans.

TABLE IV-3

Trends in college enrollments, 1950 to 1962[a]

Fall	18-21 year age group (thousands)	Total fall degree credit enrollment (thousands)	Ratio: Number of students to 100 of population aged 18-21
1950	8,945	2,281	25.5
1954	8,437	2,447	29.0
1960	9,546	3,583	37.5
1961	10,246	3,861	37.7
1962	10,745	4,175	38.9

[a] Source: A Fact Book on Higher Education, Office of Statistical Information and Research of the American Council on Education.

The trend of increasing college enrollments since the turn of the century is apparent. Is this percentage of college applicants going to continue to rise at the current rate, level off, or accelerate? It will assuredly not decline. Projections of future college demand cannot be precise, but they are sufficiently accurate to set the dimensions of the problem with which we are concerned.

Projected enrollment figures depend, of course, upon the assumptions that are made. Louis H. Conger, Jr. (1962) has derived three different projected enrollment figures for the years 1965, 1970, and 1975, each based on different underlying assumptions.[1] The first estimate, labelled the trend projection, is reached by fitting an exponential curve to enrollment rates for 1950-60 and then applying this to the projected population by age groups. The second estimate is an experimental one, introducing the estimated educational attainment of fathers as a determinant of the education level of children. The third estimate, the constant-rate projection, merely continues 1958-60 enrollment rates into the future with account being taken of population increases. Table IV-4 provides data on past enrollment levels and future projected levels.

It is evident from Table IV-4 that regardless of which projection measure one employs, a greatly increasing demand for higher education will develop in the near future. If one assumes that all of the current causal factors affecting attendance rates will continue to operate in the future, then according to the trend projection, the college enrollment figure will rise from 3.6 million in 1960 to 6.9 million in 1970 and 8.6 million in 1975. If we take the considerably more conservative and probably unrealistic view that college enrollments will only increase as a function of population changes, we still are likely to have 5.2 million by 1970 and 5.9 million by 1975. Projected enrollment figures, using father's educational level as a predictor, fall between these two estimates

What effect will this increase over the next ten years of from one and one-half to two and one-half times the current enrollments have upon the level of expenditures on higher education? What pressures will be placed on existing faculties and facilities and how much expansion will be needed in these areas?

To estimate future expenditures on higher education we will use the year 1957-58 as a standard of comparison and will continue to employ the three separate projection figures as outlined above.[2] Total expenditures

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[1] Conger, Louis H., Jr. "College and University Enrollment: Projections," in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[2] Data for these projections were derived from a report by Selma Mushkin and W. Robert Bokelman, "Student Higher Education and Facilities of Colleges and Universities: Projections," in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027. Expenditures for higher education, as used here, will include expenditures for instruction (and departmental research) and the portion of expenditures

TABLE IV-4

Fall enrollment 1950-60 and projections, 1965, 1970, 1975, total opening enrollment and full-time undergraduate and first professional, by sex, 50 states and District of Columbia[a] (In thousands)

Year	Opening enrollment			Full-time undergraduate and first professional enrollment		
	Total	Men	Women	Total	Men	Women
1950	2,286	1,563	723	.....	.....	.....
1951	2,107	1,394	713	.....	.....	.....
1952	2,139	1,383	756	.....	.....	.....
1953	2,236	1,426	811	1,557	1,004	553
1954	2,484	1,593	890	1,685	1,103	582
1955	2,703	1,774	929	1,856	1,237	619
1956	2,927	1,917	1,011	.....	.....	.....
1957	3,047	1,991	1,056	2,016	1,335	680
1958	3,236	2,098	1,138	.....	.....	.....
1959	3,377	2,161	1,216	2,196	1,412	784
1960	3,583	2,257	1,326	.....	.....	.....
	Projection I -- Trend Projection					
1965	5,220	3,424	1,796	3,399	2,246	1,153
1970	6,959	4,622	2,337	4,367	2,916	1,451
1975	8,616	5,772	2,844	5,155	3,457	1,698
	Projection II -- Fathers' Attainment Projection					
1965	4,664	3,046	1,618	3,101	2,038	1,063
1970	5,960	3,941	2,019	3,856	2,562	1,294
1975	7,090	4,714	2,376	4,410	2,932	1,478
	Projection III -- Constant-Rate Projection					
1965	4,337	2,846	1,491	2,947	1,944	1,003
1970	5,205	3,471	1,734	3,534	2,374	1,160
1975	5,941	4,001	1,940	3,979	2,693	1,286

[a] Source: Figures for 1950-60 from Office of Education surveys; those for 1965-75 converted from projections for the 48 contiguous states and the District of Columbia.

for student higher education are divided into two parts (a) personal service expenditures, and (b) expenditures for commodities or contractual services.[3] Table IV-5 presents a breakdown of these two subparts in addition to the total expenditure estimates for 1970-71 and 1975-76.

TABLE IV-5

Expenditures for student higher education, colleges and universities, aggregate United States, academic year 1957-58; and 3 illustrative estimates of those expenditures, 1970-71 and 1975-76, according to enrollment projections[a]

Illustration, by year	Enrollment (in thousands)	Expenditures (in millions)		
		Total	Personal service component	Commodity and contractual service component
1957-58	3,068	$ 2,364	$ 1,773	$ 591
1970-71:				
Illustration:				
I	7,007	9,148	7,531	1,617
II.	6,001	7,834	6,449	1,385
III	5,241	6,841	5,632	1,209
1975-76:				
Illustration:				
I	8,677	12,492	10,346	2,146
II.	7,140	10,280	8,514	1,766
III	5,982	8,614	7,134	1,480

[a] Source: Mushkin, Selma J. and Bokelman, W. Robert. "Student Higher Education and Facilities of Colleges and Universities: Projections" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education, Report #OE-50027.

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for general administration, libraries, and maintenance of physical plant that are attributable to instruction. At the same time the following expenditures are excluded: organized research, extension courses for non-degree students, other public services and related activities, and also the part of administrative, plant-operation, and library expenses that is attributable to organized research and public services. Expenditures for auxiliary activities, scholarship aid, and capital outlay are also excluded.

[3] The personal service component, which represents payrolls and fringe benefit outlays for persons employed by the colleges and universities

The figures in Table IV-5 assume that the institutional pattern of higher education in the country will remain essentially unchanged. Geographic differences among institutions and differences in rate of growth are ignored so that the table deals only with gross estimates of nation-wide averages. In spite of this lack of precision, even the most conservative estimate of future expenditures projects the cost of higher education for 1975-76 at something over three and one-half times that of 1957-58. The more extreme estimate, based on the trend projection of college enrollments, places college expenditures at a figure over five times that of 1957-58. What are some of the factors involved in raising the level of college expenditures to this extent?

The first factor to consider, of course, is the increase in enrollment itself. With from one and one-half to two and one-half times as many young people enrolled in college by 1975, the cost of higher education will necessarily go up. In addition, however, the largest element in the rise in expenditures will be an increase in faculty salaries. According to Mushkin and Bokelman (1962), "the President's Committee on Education Beyond the High School estimated in 1957 that average faculty salaries would have to be increased by 75-80 per cent to restore teaching to a competitive position in the professional labor market, and that to maintain this position, once restored, would require additional increases. The Committee recommendation has been widely broadcast, and the increase is generally accepted as a goal to strive toward."[4]

The expenditure figures cited above are computed, therefore, to allow for a readjustment increase of 50 per cent over 1957-58 average salaries. It should be recognized that salaries increased by 15 to 20 per cent during the period of 1957-58 to 1960-61. It is further assumed that the size of faculty staffs will increase along with college enrollment although there will be an average increase in student-faculty ratio of 20 per cent by the year 1970-71. Any larger increase of this ratio would entail a planned decline in the quality of education.

In order to set these projected expenditures in perspective, we should relate them to the total national economy. The Gross National Product will presumably be increasing over this period also. How much will higher education cost in 1970 relative to the present in terms of the percentage of GNP allocated to this area?

The percentage of GNP allocated to higher education in 1957-58 for

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was computed at 75 per cent of the total expenditure for student higher education. The commodity and contractual service component represents the expenditures for books, apparatus and equipment, cleaning, materials, heating, lighting, travel and so forth.

[4] Mushkin, Selma J. and Bokelman, W. Robert. "Student Higher Education and Facilities of Colleges and Universities: Projections" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

expenditures as defined above was approximately one-half of one per cent. The highest of the three estimates of future expenditures for higher education calls for an increase from one-half of one per cent of GNP in 1957-58 to 1.0 per cent by 1970-71 and 1.1 by 1975-76. This involves essentially a shifting of only one-half of one per cent of the GNP into expenditures for higher education over the next ten years. Looked at in another way, this involves a doubling of the percentage of GNP currently allocated to expenditures for higher education.

Figures presented to this point on estimated expenditures for higher education in the future have dealt primarily with running expenses. A second source of expense and one of critical importance is the amount to be spent on providing expanded facilities for the increasing enrollments of the future. We have already presented data on some important factors contributing to the critical need for expansion of physical facilities. As we have pointed out, a larger college-age population is a certainty. There is also good evidence that a continually increasing proportion of college-age people will seek a college education and will remain longer for graduate work. In addition, the cost of physical facilities and equipment is higher with the greater emphasis on advanced study and research. An increasing source of costs will be in providing accommodations for married students. More and more colleges and universities are expanding this program. While 4.6 per cent of college expenditures were allocated to the construction of married housing between 1951-55, estimates are that the figure will be around 9.7 per cent between 1956-70.[5] This increase occurs because it requires two and one-half times as much residence space for a married student as for a single student, and increasing numbers of married students are now attending college. Finally, there is a backlog of obsolete and temporary school buildings in need of replacement and repair. These various factors form the basis for the following projections of needed physical facilities.

Bokelman and Rork (1960) have attempted to estimate the need for physical facilities taking into account both expected enrollments and the adequacy of present facilities.[6] Assuming an enrollment increase of 2,823,000 students by 1970, which is in between our constant-rate and trend projections, the cost of new construction for 1956-70 is likely to be 12.36 billion dollars or over 824 million dollars per year for the fifteen year period. Out of this 12.36 billion dollars needed for new construction, the funds needed for instructional research, general and auxiliary facilities are estimated to be 7.06 billion dollars with an additional 5.30 billion dollars for residential facilities.

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[5] Ibid.

[6] Bokelman, Robert W. and Rork, John B. College and University Facilities Survey, Part 2: Planning for College and University Physical Plant Expansion, 1956-70. U. S. Department of Health, Education, and Welfare, Office of Education, 1960.

In addition to the need for new construction, there is the problem of currently occupied but substandard buildings. A study by D'Amico and Higgins (1959) deals with the problem.[7] Estimates are that 15 per cent of college facilities occupied between 1940 and 1957 are unsatisfactory. Much of this backlog, of course, has been created through the continued use of surplus government buildings purchased after World War II. These temporary structures in their deteriorating state cannot be used indefinitely. The same study maintains "that 12 per cent of the buildings occupied before 1901 and still in use in 1957 should be razed; that 17 per cent of those first occupied between 1901 and 1920 should be replaced; and that 5 per cent of those first occupied between 1921 and 1940 are obsolescent."

Bokelman and Rork also take into account the costs of replacement, rehabilitation and normal depreciation of existing college buildings.[8] Their estimates of these costs involve an additional expenditure of 4.78 billion dollars or 399 million dollars per year between 1958 and 1970. Thus the estimated cost for buildings alone, both new construction and rehabilitation, exclusive of the cost of additional land, equipment and other campus improvement, is in excess of 1.22 billion dollars annually between 1958 and 1970.

From the data presented above there emerges a picture of rapidly increasing college enrollments with a concomitant rise in expenditures for higher education. This is a familiar story to those who take a professional interest in the problems of financing higher education. The question remains whether those who must pay the costs of the present and future expansion of higher education are aware of the increasing financial pressures faced by our college institutions? Do the common taxpayers perceive the crisis which the cold facts of a growing population and increasing enrollment rates clearly foreshadow?

Public Awareness of the Developing Crisis in Higher Education

It is always difficult to assess the degree of popular concern with a public issue, especially when the issue deals with some aspect of society which is remote from the experience of a large segment of the population. We can assume that some small part of the public is directly involved in the problems of college education for their own children and we know that an uncertain number of people are sufficiently involved in public affairs to be concerned with social problems which do not affect them directly. There remains a substantial portion of the population who are only marginally involved with public issues and poorly informed regarding specific problems or events. This heterogeneous array presents formidable difficulties to those who seek to measure public opinion and it is frequently impossible to create any single statistic which can be taken as an absolute measure. In seeking to bring out the degree of interest and involvement our respondents felt in the problems of higher education, we posed the questions in a variety of ways and we shall depend on the combination of them all in reaching our conclusions.

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[7] D'Amico, Louis A. and Higgins, E. Eugene. College and University Facilities Survey, Part 3: Inventory of College and University Physical Facilities, December 31, 1957 (A Preliminary Report), U. S. Department of Health, Education and Welfare, Office of Education, 1959 quoted in Mushkin and Bokelman, op. cit.

[8] Bokelman and Rork, op. cit.

We undertook first to ascertain whether the public had any appreciation of the pressure of increasing enrollments currently being felt by the nation's colleges. We stated this condition as a fact and asked our respondents whether or not they thought this pressure was serious (Table IV-6).

TABLE IV-6

"Colleges all over the country are having to turn down high school graduates who want to come because they don't have room for them. Some people think this is a pretty serious problem and others don't think it is. How about you, would you say it is very serious, somewhat serious, or not at all serious?"

Very serious	50%
Somewhat serious	26
Not at all serious	9
Don't know	14
Not ascertained	1
Total	100%
Number of respondents	1310

We assume that a plausible statement of this kind will attract a good many expressions of agreement from people who have not really given the question much thought. It is not surprising, therefore, that half of the respondents chose the "very serious" alternative. One person in ten rejected the suggestion that the colleges were overcrowded, and one in seven admitted he knew nothing about the problem.

It becomes apparent when we analyze the reasons people gave for these opinions that many of those who chose the "serious" categories in their responses were simply accepting the declarative statement of the question and explaining why such a state of affairs is serious. As we see in Table IV-7, a majority of these people say it is serious

TABLE IV-7

"Why is that?"

Respondents who answered that the problem is very serious or somewhat serious gave the following reasons:

Education is a good thing; everyone who wants education should have it; equal opportunities for all	60%
Should educate more selectively; only deserving or serious-minded students; not just those who can afford it	7
Help keep down unemployment; population explosion -- have to do something for young people	3
Better informed voters; for better citizens	2
To maintain world leadership; we have to keep ahead of Russia and Russia is stressing education; cold war reasons	1
If more people had more education, there would be fewer social problems, e.g., less juvenile delinquency, crime	1
Other	7
Don't know	1
Not ascertained	19
Total	**
Number of respondents	1004

Respondents who answered that the problem is not at all serious gave the following reasons:

There isn't any problem; there is enough room now	68%
Should educate selectively, only the brightest should go to college; we give too many people college degree; college degree doesn't mean as much as it used to	17
Higher education just leads to silly notions, radical ideas, Godlessness; makes young people lazy	1
Taxes would be lower; taxpayers overburdened; students and their families should bear the cost	1
Technical or vocational training needed more than college; other skills needed more	1
Other	10
Not ascertained	7
Total	**
Number of respondents	120

for young people to be turned away from college because "everyone who wants an education should have it," "there should be equal opportunity for all," and other reasons stressing the value of well-educated people to society. It is significant that a fifth of all these people could offer no rationale for their answers, and it is probable that they actually had no prior opinion on the matter.

The people who rejected the suggestion that the colleges are overcrowded, on the other hand, appear to be quite fixed in their reasons. Almost all of them offered an explanation of their attitude. Most of them simply assert that there is no serious shortage, that the colleges can accommodate the demand. Others make clear that they object to further expansion of college facilities.

A majority of the public are willing to accept the statement that the nation's colleges are seriously crowded. We asked our respondents whether they felt the problem of lack of space in our colleges would be getting better or worse over the next few years. Half of them said they thought it would get worse (Table IV-8). A quarter were optimistic about overcoming college space problems. The remaining quarter were not willing to offer an opinion as to how things are likely to turn out.

TABLE IV-8

"Do you think this problem of not enough room in the colleges is going to get better in the next few years, or is it going to be worse?"

Going to get worse	48%
Going to get better	26
Stay the same	1
Can't say	24
Not ascertained	1
Total	100%
Number of respondents	1310

Most people who see things as getting worse take into account the major increases in total population and the obvious fact that there will be more college-age people in the future (Table IV-9). Three out of four of these people mention increases in population. It is significant, however, that there seems to be no recognition of the fact that in the future a higher percentage of these college-age people will be seeking a college education.

TABLE IV-9

"What do you have in mind?"

Respondents who answered that the problem is going to get worse gave the following reasons:

Whole population is increasing: more college age youth	73%
People less willing to pay taxes, yet more facilities needed; taxes are too high already	3
College will be more necessary; technological advances mean more people will need to go to college	2
Shortage of teachers, physicians, engineers or other professional people	2
Tuition in many schools is already exorbitant	*
Other	11
Don't know	1
Not ascertained	13
Total	**
Number of respondents	619

Respondents who answered that the problem is going to get better gave the following reasons:

Taxes will probably go up; build more buildings; more facilities are being provided now	63%
Lot of talk about it, things will be done	13
People are becoming aware of the problem, more concern	13
The number of students applying is bound to taper off; peak is now	1
Colleges will have to become more selective	1
People are going to demand more efficient use of facilities, more night schools, summer sessions	1
Other	9
Don't know	1
Not ascertained	7
Total	**
Number of respondents	342

People who feel things are going to get better range in their reasons from very general answers to more specific solutions. Most of them simply assume that new construction will meet the increasing needs. Some seem to feel that something will be done about this problem because people are talking about it and are more aware of and concerned about the college space problem. A few people hope the pressure will be relieved by a reduction in the number of students; this is a very small proportion of the total sample, less than one per cent.

We may conclude from these data that a substantial proportion of the American public, at least half, have some awareness of the crowding of the nation's colleges. By comparing the attitudes of various sub-sections of the sample we can ascertain where this awareness is strongest. We may summarize a considerable array of statistical data with the following statements:

1. The inability to express an opinion regarding our questions concerning college crowding decreases as education, income, and social leadership increase and increases as age increases.

2. Appreciation of the seriousness of the problem increases as education, income, and social leadership increase but decreases as age increases.

3. The four major regions of the country differ perceptibly in their attitudes on these questions with the West and North Central expressing greater concern than the Northeast and South.

One interesting exception to these general trends must be noted. Although people with more than average education are generally more concerned with the shortage of space in the college, a considerable number of college graduates (one-fifth) specifically state that the shortage is not serious, a larger proportion than in any of the lesser educational brackets. We may assume that these relatively well-informed people know something of the availability of places in the lesser known colleges and of the efforts being made to find an opening for applicants who have been turned down by the more popular campuses.

In order to obtain a further indication of the sense of urgency people feel about the adequacy of facilities for higher education, an additional question was asked which related the problem to the respondent's own state. Fewer than a quarter of our respondents felt that their state was not doing enough "to make it possible for young people here to go on to college" (Table IV-10).

One respondent in three would not venture an opinion on this question; of the rest a large majority were satisfied with what they felt their state was doing. Among this 44 per cent of the total sample, two explanations are frequently given in support of their attitude. One is the quite general response that the state is exercising reasonable

TABLE IV-10

"Do you think (...name of state...) is doing about what it should in making it possible for young people here to go on to college, or would you say it is doing too much or not doing enough?"

The state is doing about what it should	44%
The state is not doing enough	22
The state is doing too much	1
Don't know	28
Not ascertained	5
Total	100%
Number of respondents	1310

control and meeting its responsibilities. This is mentioned by a third of these people (Table IV-11). The more specific response that the state has recently increased support through scholarships, building programs or increases in faculty salaries was made by an additional third.

People who feel not enough is being done in their state mention three problems most frequently. The fact that colleges in the state are overcrowded and facilities are inadequate is cited by almost a quarter of these people. Unreasonably high tuition costs are mentioned by a fifth of these respondents while one in eight states that young people are now being turned away and enrollment is likely to rise.

When we examine the characteristics of the people who hold these contrasting views on the adequacy of their own state's support of higher education, we do not find the strong relationships with measures of social status which we might have expected. Over a third of the population are not able to express an opinion on this question, and these people are twice as frequent among the low-education, low income, low leadership groups as they are among people of higher achievement. The people who do take one or the other position, however, do not differ substantially in their socio-economic position. Discounting the differences in willingness to offer an opinion, the ratio of belief that enough is being done to the belief that not enough is being done is about the same in all these groups. Neither do age groups differ in any significant way, although people of retirement age are somewhat more satisfied with things as they are than younger people. Single people and older couples with no young children are less concerned than young married people and especially people with children of college age. Catholics are slightly more critical of the current level of support than Protestants, and Negroes as a group are more critical than whites.

TABLE IV-11

"Why do you say that?"

Respondents who answered that the state is doing about what it should gave the following reasons:	
State exercising reasonable control; reasonable support; meeting its responsibilities	33%
State has recently increased support, e.g., scholarships, faculty salaries, building programs	33
State colleges are meeting competition for students or faculty; must maintain reputation; meet standards elsewhere	3
Tuition is high now; balance between tuition and tax support is about right	1
Students and families should bear cost; state should not increase support	1
Education is important: college should be primary concern	1
Other	7
Don't know	6
Not ascertained	20
Total	**
Number of respondents	571

Respondents who answered that the state is not doing enough gave the following reasons:	
Colleges overcrowded; facilities inadequate	23%
Tuitions too high; students and families cannot meet costs; deserving young people cannot afford college	20
Young people are being turned away; enrollment will rise because of population increase and should be provided for	12
State colleges cannot meet competition for students; cannot meet out-of-state standards; not up to standards	9
College teachers are underpaid; colleges cannot meet competition for good teachers	4
Education is important; college should be a primary concern	2
Other	19
Don't know	2
Not ascertained	19
Total	**
Number of respondents	281

The greatest differences in answers to this question are found when we group the states in which the respondents live according to their per capita expenditures on higher education.[9] As we see in Table IV-12, in the quarter of the states with the highest appropriation, the satisfaction with the current level of support is highest. Among the states with the lowest appropriation, there is a high rate of ignorance about the adequacy of state support, but among those individuals who have an opinion, dissatisfaction is almost as frequently expressed as satisfaction. Public opinion on this issue is obviously the result, in part at least, of the situation in the individual states.

TABLE IV-12

Opinions of whether state is doing what it should in enabling young people to go on to college by per capita support of state colleges by state of respondent

	State support			
	First quartile	Second quartile	Third quartile	Fourth quartile
The state is doing about what it should	53%	45%	49%	31%
The state is not doing enough	16	24	19	26
The state is doing too much	2	1	1	1
Don't know	23	25	24	38
Not ascertained	6	5	7	4
Total	100%	100%	100%	100%
Number of respondents	290	343	315	358

Regional differences are also apparent when we compare opinions in the four major geographical areas of the country. Satisfaction with current support of higher education is highest in the West, an area in which per capita appropriation is generally high. It is lowest in the Northeast, where appropriations are relatively low. In the South, however, where appropriations are lowest, satisfaction is generally high, at about the same level as in the North Central region, where appropriations are considerably higher. It appears that satisfaction with local support of higher education reflects not only actual levels of support but also levels of public aspiration.

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[9] See Appendix for rating of levels of state appropriations.

TABLE IV-13

Ratios of satisfaction with state expenditures by quartile ranking of state support

	Ratio of satisfaction to dissatisfaction
West	3.4 to 1
North Central	2.4 to 1
South	2.3 to 1
Northeast	1.0 to 1

In order to throw additional light on the background of public opinion toward support of higher education, we inquired about attitudes toward the support of education at the community level. Our purpose was to test the supposition that attitudes toward public education may be of a general character and that support or opposition at one level will be associated with similar attitudes at other levels. We discovered that within the general public this is a rather weak relationship.

The distribution of opinion in answers to our question about support of local public schools indicates a stronger sense of need at this level than we found at the college level (Table IV-14). Although there is still a large minority of people who have no opinion about school support (largely the same people who had no idea about state support of higher education), the proportion of the population who feel the local schools are not adequately supported is almost half again larger than the proportion who feel the colleges need greater support. The explanations which those who expressed positive or negative attitudes toward local school appropriations give for their position suggest the immediate quality of problems in the local schools (Table IV-15). Those who favor greater support speak of low teacher salaries, crowding in the schools, half-day sessions and the like. The small number of people who feel the schools are already getting too much money refer to extravagant facilities, educational frills and the heavy tax burden.

When we compare the attitudes toward higher education of these people who hold different attitudes toward local education, we find a

TABLE IV-14

"Now let me ask a few questions about the grade schools and high schools here in (...name of city or county...). Do you think they are getting about the right amount of money they need to run the way they ought to, or are they getting too much, or not enough?"

Right amount	35%
Not enough	30
Too much	4
Don't know	30
Not ascertained	1
Total	100%
Number of respondents	1310

TABLE IV-15

"Why do you say that?"

Respondents who answered that schools in the area are not getting enough money gave the following elaborations:

Teachers' salaries are too low; can't get good teachers	33%
Overcrowding; population increase	24
More money needed for improvements, new facilities, etc.	17
More money needed for new buildings	15
Staggered classes; half-day sessions, other symptomatic responses	15
Not up to standards	5
Necessary courses aren't being taught; children are deprived of opportunity to learn some things, e.g., vocational training, counselling, recreation	4
Don't know	1
Not ascertained	13
Total	**
Number of respondents	389

Respondents who answered that schools in the area are getting too much money gave the following elaborations:

Unnecessary money spent on fancy new buildings with plush facilities	29%
Lots of frills and unnecessary courses being taught, e.g., physical education, driver training, etc.	13
Taxes are too high, community can't afford the burden	12
Teachers' salaries are too high	5
Should use facilities more intensively, e.g., summer schools	5
Other	15
Not ascertained	33
Total	**
Number of respondents	58

great deal of disparity in the two sets of views (Table IV-16). Disregarding the sizable numbers of uninformed respondents in each attitude category, we see a relationship of the expected kind but not a very strong one. People who say the local schools are not getting enough support are more likely than any other group to say the colleges also need more support, but half of this group feel the colleges are being adequately supported. It seems clear that a good many people do not closely associate the financial problems of the local schools and the state colleges, either because the financial situations of these two educational levels actually differ in their states or because they are more aware of one than the other and do not generalize their views to the whole range of the educational system.

TABLE IV-16

Degree of satisfaction with state support by proponents and opponents of local school support

Attitudes toward adequacy of state support of colleges	Attitudes toward adequacy of financial support of local school			
	Not enough	Right amount	Too much	Don't know
Not doing enough	37%	18%	23%	14%
About what it should	41	59	47	37
Doing too much	1	1	14	1
Don't know	21	22	16	48
Total	100%	100%	100%	100%
Number of respondents	376	427	57	373

Summary

It is impossible to observe the current trends in college enrollments and the oncoming cohorts of the postwar generation without a sense of impending crisis. By 1975, the nation's capacity for higher education must expand by between one and one-half and two and one-half times the enrollment in 1958 if it is to meet the demand. Considering both operating expenses and the necessary expansion of faculties and facilities, this increase in enrollment will involve a cost of from three and one-half to five times 1958 expenditures. Though the number of taxpayers will, of course, increase along with college enrollments and the gross national product will be increasing over these years, the projected expenditure figures still represent a doubling of the nation's allocation of resources into higher education over the next few years.

It is not to be expected that the general public will have a detailed understanding of these projections of enrollments and expenditures. It is clear, however, that the public will eventually be asked to pay these greatly increased costs, and public attitudes toward the urgency of the needs of the colleges will undoubtedly influence the speed and adequacy with which these needs are met.

A summation of the measures of public opinion we have reviewed in this chapter leads us to conclude that for the most part the public is not actively concerned about problems of higher education. This is particularly evident in its evaluation of the adequacy of support in the individual states; a third of the public are so poorly informed as to be unwilling to hazard an opinion, and the bulk of the others are satisfied that the current level of support is fully adequate. Most of these people are willing to agree that it would be serious if the colleges actually had to turn down qualified applicants because of lack of space. Such a contingency appears to offend a widespread belief that college education should be available as a natural right. On the other hand, a relatively small proportion of the public seem seriously concerned that their own state colleges are in this situation as yet.

A sizable portion of the population, a third or more, specifically recognize that the rising numbers of college-age youth will increase the pressures on the colleges. A good many more people expect the problem of crowding in the colleges to get worse than expect it to improve. The sense of immediate urgency is not high, however, even among those segments of the population which might be expected to be relatively well-informed about these questions. It remains to be seen, of course, what the reaction of the public will be as the problem becomes increasingly serious. It can be realistically expected that while public concern will tend to rise, it will lag behind the developing crisis.

CHAPTER V

ALTERNATIVE SOLUTIONS TO THE CURRENT CRISIS

We have presented throughout the first four chapters of this report information concerning the major problem of higher education today, an ever increasing demand and inadequate sources of support. From our survey data it is apparent that most people in this country are convinced of the personal advantages, if not the societal advantages, of a college education. People are less knowledgeable, however, about the serious problems in financing higher education.

Faced with an accelerating rate of enrollment and accompanying higher costs, how is the nation to meet these expenses? Assuming that people will become better acquainted with these problems as they become more severe, and more concerned with their resolution, what is the most acceptable choice among the available solutions? In our survey questions we undertook to determine which of the alternative solutions are most acceptable to the general public. Before considering these data, however, we first review additional information on the anticipated degree of financial support required in the future and also some data on current sources of support and the magnitude of their contributions.

The Developing Gap Between the Financial Needs and the Financial Support of the College System

In Chapter IV we presented projections of future college enrollments and expenditures. These estimates clearly indicate a rapid rise in the cost of higher education. Let us now examine projected costs while considering available sources of financial support.

In Table IV-4 of the preceding chapter, figures on both current expenditures and future costs of higher education were cited. In 1957-58 total expenditures in colleges and universities amounted to approximately two billion, 364 million dollars. Table V-1 itemizes this figure by source of support. The figures in this table include income in colleges and universities for educational and general purposes. Funds for auxiliary enterprises, scholarships and other student aid and organized research are excluded.

It is evident from the percentage breakdown in Table V-1 that private endowments and other philanthropic gifts no longer provide the major source of income for our college system. Income from tuitions and other fees and also from state and local funds both comprise a much larger percentage of the total college expenditures. This trend is likely to continue.

In Table IV-3 it was estimated that if current trends continue there will be an enrollment increase between 1957-58 and 1970-71 of

TABLE V-1

Current income for support of student higher education, by source, in colleges and universities, aggregate United States, academic year 1957-58[a]
[Amounts in millions]

Source	Amount	Per cent
Total	$2,363.9	100.0
Tuition and fees[b]	856.1	36.2
Gifts and endowment earnings[c]	346.8	14.7
State and local funds[c]	1,001.3	42.4
Federal funds[d]	95.5	4.0
Other[c]	64.2	2.7

[a] Source: Mushkin, Selma J. and Bokelman, W. Robert. "Student Higher Education and Facilities of Colleges and Universities: Projections," in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[b] The amount of income from student tuition and fees as reported in Biennial Survey data for 1957-58 is $939.1 million. To this amount is added tuition and student fees set aside in plant funds, $21.1 million. As estimated $47.6 million for scholarship aid (estimated at two-thirds of scholarship income, excluding transfers of income and remissions of fees), is deducted from tuition; and $56.5 million, the estimated amount of income from tuition for extension non-degree-credit courses also is deducted.

[c] Income from sources other than student tuition and fees, proportionately reduced to correspond to the difference between student higher education expenditures and total income as reported in the Biennial Survey.

[d] Federal funds paid to colleges and universities, less funds for organized research and for agricultural experiment stations and extension work. The estimate used here represents a reconciliation of Biennial Survey data and an independent estimate by Penrose Jackson (School Finance Section, Office of Education), based on amounts reported by Federal agencies in a survey of Federal activities related to education (unpublished data, U.S. Department of Health, Education, and Welfare, Office of Education). It should be recognized that Federal funds in addition to the $95.5 million are spent for higher education, but that these additional amounts are either for purposes other than student higher education, such as organized research, or are paid to students and do not go directly to the colleges and universities as Federal aid.

3,939,000 students. By 1975-76 this figure will rise to an additional 1,670,000 students. These enrollment increases would raise the necessary expenditures for higher education from 2.4 billion dollars in 1957-58 to 9.1 billion dollars in 1970-71 and 12.5 billion dollars in 1975-76. These estimates are based on the trend projection figures for future enrollments and expenditures.[1] These figures, of course, represent the most extreme estimate of the future situation. Estimates of future enrollments and expenditures based purely on population increases are probably unrealistically low as we have already indicated, but even these figures indicate a dramatic increase in both enrollments and necessary expenditures.[2] Where are the necessary additional funds under our current system of financing higher education to come from?

In Tables V-2 and V-3, an attempt has been made to estimate the future contributions of the three primary sources of financial support for higher education. From the figures shown in Tables V-2 and V-3, it is obvious that within the next few years the contributions of the traditional sources of support, if maintained at their current rate, will prove to be deficient. Regardless of which projection of future enrollments one employs, there will be a substantial gap by 1970 between required expenditures and expected financial support. The fact of the matter is, considering the anticipated future demand for higher education and the associated costs, there will not be enough money available by 1970-71 and particularly by 1975-76 to maintain the current standards of quality while educating the greatly augmented number of new college applicants. To overcome this deficit the nation must either curtail the quality or quantity of its program of higher education, greatly increase the contributions from the traditional sources of support, or make some radical change in the current method of financing higher education. Before considering these alternative solutions and their probable effects upon the educational system, let us examine more closely the current sources of support and their respective financial contributions to higher education today.

Current Contributions to the Financing of Higher Education from State and Local Governments

It is evident from Table V-1 that state and local taxes are a major form of support for higher education across the nation. Over 40 per cent of the current expenditures for the nation's colleges and universities are now paid from state and local taxes. Contributions from state and local governments account for about 60 per cent of the plant funds of the plant funds of colleges and universities, and this figure rises to almost

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[1] See Trend Projection, Chapter IV, page 57.

[2] See Constant-Rate Projection, Chapter IV, page 57.

TABLE V-2

Current income of colleges and universities for student higher education, by source, academic year 1957-58; and three illustrative estimates of that income, 1970-71 and 1975-76[a] [In billions]

Source	1957-58	Estimate, by year, and illustration					
		1970-71			1975-76		
		I	II	III	I	II	III
Total	$2.4	$9.1[b]	$7.8	$6.8	$12.5	$10.3	$8.6
Total first approximation of income		6.9	5.9	5.2	9.4	7.7	6.5
Tuition and fees	0.9	2.6	2.2	2.0	3.7	3.1	2.6
Gifts and endowment earnings	.4	1.1	.9	.8	1.3	1.1	.9
State and local funds	1.0	2.9	2.4	2.1	3.8	3.1	2.6
(Without tax rate increase)	(1.0)	(2.0)	(2.0)	(2.0)	(2.6)	(2.6)	(2.6)
Other[c]	.1	.4	.4	.3	.6	.5	.4
Additional amount needed		2.2	1.9	1.7	3.1	2.5	2.1

[a] Source: Mushkin, Selma J. and Bokelman, W. Robert. "Student Higher Education and Facilities of Colleges and Universities: Projections" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[b] These figures assume no change in the basic structure of financing our college system. Tuition and fee figures are increased in proportion to the assumed rate of increase in family income over this period, i.e., 3.4 per cent per annum. The growth pattern of gifts and endowments over the past few years has been projected into the future. Finally, approximations of the amounts of state and local funds available in the future for higher education are based on the experience of the 1950's. Over this ten year period, the per student contributions increased on the average 1.2 per cent a year. State and local funds are thus projected to rise in proportion to the number of students enrolled in public colleges and universities, with an added adjustment corresponding to the average increase in per student funds over the period since 1950. Tables V-2 and V-3 present estimated future college income by source in both dollar amounts and percentages.

[c] Includes income from Federal Government, which amounted to $95.5 million in 1957-58.

Totals may not add because of rounding.

TABLE V-3

Percentage distribution of current income of colleges and universities for student higher education, by source, academic year 1957-58; and three illustrative estimates of that income, 1970-71 and 1975-76[a]

Source	1957-58	Percent of estimate, by year and illustration					
		1970-71			1975-76		
		I	II	III	I	II	III
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total first approximation of income		75.7	[illegible].6	75.5	75.3	75.3	75.2
Tuition and fees	36.2	28.0	28.3	28.5	29.6	29.9	30.2
Gifts and endowment earnings	14.7	11.7	11.7	11.7	10.5	10.5	10.5
State and local funds	42.4	31.3	31.0	30.7	30.5	30.2	29.8
Other[b]	6.7	4.6	4.6	4.6	4.7	4.7	4.7
Additional amount needed		24.3	24.4	24.5	24.7	24.7	24.8

[a] Source: Mushkin, Selma J. and Bokelman, W. Robert. "Student Higher Education and Facilities of Colleges and Universities: Projection" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[b] Includes income from Federal Government.
Totals may not add because of rounding.

80 per cent for public institutions.[3] Although most state and local funds for higher education go to public institutions, the support provided private colleges and universities through scholarship support or tax exemption should not be discounted.

There has been an increasing amount of support for higher education forthcoming from state and local sources over the years. In current dollars, funds from state and local sources in 1957-58 were twenty times as high as they were in the early 1920's and three times as high as they were immediately after World War II. Considering the four-year period from 1953-54 to 1957-58, increases in these expenditures averaged about 10 per cent a year, while increases in enrollments in public institutions averaged about 12 per cent a year.[4]

In the future, as indicated in Tables V-2 and V-3, if the states and local areas just increased their tax contributions in proportion to the expected increase in number of students, these funds for higher education would rise from one billion dollars in 1957-58 to $2.9 billion in 1970-71 and to $3.8 billion in 1975-76. If there is any effort, however, to absorb some of the predicted gap between anticipated future expenses and financial resources by providing, for example, for 50 per cent of college and university expenditures instead of the 42.4 per cent in 1957-58, this would require the raising of 4.5 billion dollars in taxes by 1970-71 and six billion dollars by 1975-76.[5]

Current Contributions to the Financing of Higher Education from Corporations, Foundations, and Private Donors

Corporate contributions to philanthropic causes constitute a sizable figure. Corporate giving for all philanthropic purposes amounted to 395 million dollars in 1958 and is expected to double by 1970.[6] It would appear also that education is getting an increasingly large share of total corporate giving. The relative share for education has almost tripled since 1947. The greater share of this corporate support goes to private universities which receive three-quarters of the corporate support while educating about one-half of all college students.[7]

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[3] Mushkin, Selma J. "State Financing of Higher Education" in Economics of Higher Education, (Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[4] Ibid.

[5] Ibid.

[6] Pitchell, Robert J. "Corporate Support of Higher Education" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[7] Ibid.

According to Robert Pitchell (1962), "The Council for Financial Aid to Education has estimated that something over 136 million dollars was given by American business concerns (including company foundations) to higher education in 1958."[8] This figure includes grants in the form of fellowships and scholarships given directly to students. In terms of direct contributions to institutions of higher education, business gifts totaled 98.5 million dollars. This total was divided into 68.9 million dollars for current operations and 29.6 million dollars for capital purposes.

In the opinion of the Council, corporations and business concerns are increasing their contributions to higher education but not at the rate of other donors. Table V-4 demonstrates this point. Alumni and

TABLE V-4

Voluntary contributions, by groups of donors to institutions of higher education, 1954-55 and 1958-59[a] [Amounts in millions]

Donors	1954-55	1958-59	Per cent change
Governments[b]	$ 29.9	$124.8	+318.1
Individuals and/or families[c]	30.9	129.3	+318.1
Alumni(ae)	52.1	152.6	+192.9
Nonalumni, nonchurch groups	18.7	52.4	+180.2
Governing boards	9.7	24.4	+153.1
Business concerns	39.4	98.4	+149.7
General welfare foundations	50.2	88.3	+75.8
Religious denominations	42.9	64.2	+49.8
Other sources	15.3	16.9	+10.5
Bequests, trusts, annuities	47.0	(d)	(d)
Total	336.1	751.3	123.5
Institutions reporting	728	1,071	+47.1

[a] Source: Council for Financial Aid to Education. Voluntary Support of America's Colleges and Universities, 1958-59. New York: The Council, 1959.

[b] Does not include appropriations or other specific grants made by statute.

[c] Covers individuals and families not included in other groups.

[d] These gifts were credited to donors in other categories in 1958-59.

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[8] Ibid.

other individuals increased their contributions between 1954-55 and 1958-59 by 192.9 per cent and 318.1 per cent, respectively. The increase in contributions by business concerns represents a rise of 149.7 per cent between these two periods.

While corporate and foundation giving amounts to less than five per cent of total current-fund income of institutions of higher education, total payments from government amount to 42.7 per cent of current fund income. Total philanthropic contributions by corporations represent one per cent of corporate net profits before taxes. Corporations are increasing their contributions, though, especially as they perceive the long-range value of basic research; yet, in the opinion of Pitchell, business concerns remain one of the "great largely untapped reservoirs of support."[9]

Current Contributions to the Financing of Higher Education by the Federal Government

In Chapter I, we traced briefly the history of federal aid to higher education. Present federal programs in the field of higher education fall into four major categories. Research, of course, absorbs the major share of federal grants to higher education. In 1957-58, thirty-one states each received more than one million dollars from the federal government for research in their institutions of higher education.[10] A second category of federal financial assistance is in the area of training programs, such as the educational institute conducted by the National Science Foundation for the updating of teaching methods. Historically, an important area of federal participation in higher education has been aid to students. These programs continue today and include loans, fellowships, traineeships, and professional training programs under various federal agency auspices. Finally the federal government provides grants and loans for the construction of facilities and research-related equipment. The Housing and Home Finance Administration also gives support for dormitory construction.

The degree of federal support for higher education has been rising over the years and is likely to continue. This continual rise in federal contributions may involve an additional two billion dollars by 1970 and three billion dollars by 1975. This would constitute from 1.6 to 2.4 per cent of the estimated federal budget.[11]

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[9] Ibid.

[10] Moor, Roy E. "The Federal Government Role in Higher Education" in Economics of Higher Education, Selma J. Mushkin (Ed.), 1962. Office of Education Report #OE-50027.

[11] Ibid.

Current Contributions to the Financing of Higher Education from All Major Sources

It is evident from the preceding sections that support for higher education comes from a variety of sources. A summary table of sources of support for both public and private universities for the year 1957-58 is presented below. Table V-5 shows the contributions of various sectors of the economy to the current-fund income of all institutions of higher education.

The General Public's Evaluation of Alternative Solutions to the Problems of Financing Higher Education

Ultimately, of course, the burden of support for higher education rests on the common citizen. Whether this expense is borne by the individual through alumni contributions, other personal gifts, higher tuition rates, undistributed corporate profits or allocations of state and federal tax monies, the real source of support comes from the American taxpayer. The question is, do these much-put-upon people wish to shoulder this important burden and if so in what way?

There appear to be a number of ways of handling the financial problems of the colleges and universities and the eventual solutions will probably involve a combination of these methods. As we have seen, a small section of the population, nine per cent, seem to believe there is no serious problem in financing higher education today. These people feel either that there is enough room now or that we ought to educate more selectively. Their solution is to curtail enrollments and thereby avoid the future pressures of increased costs. Increases in support might also be avoided if ways could be found to bring about substantial economies in the costs of college operations.

Neither of these solutions seems realistic. The evidence of our survey makes clear the rising public demand for college education. Proposals to curtail college enrollments will certainly meet determined opposition, not only from outraged parents but from interested groups and organizations which understand society's increasing need for a highly trained population. Economies in college operation are no doubt possible and, as we shall see, a certain number of people are critical of the colleges on this ground, but such savings as can be effected by year-round operation and the like cannot possibly offset the increase in expenditures which will be required by the tremendous increases in enrollment.

This leaves us with the inevitability of seeking additional support for higher education. We have, however, a number of choices here. The burden can be placed directly on the future students and their families by increasing tuition rates and other fees. Although we have traditionally emphasized minimal tuition rates, perhaps some changes will have to be made in the future. Alternatively we may seek additional support from the more affluent members of society through increased corporation taxes

TABLE V-5

Current-fund income of institutions of higher education, by control and source of income, 1957-58[a]
[Amounts in thousands]

Source	Public and private		Public		Private	
	Amount	Per cent of total	Amount	Per cent of total	Amount	Per cent of total
Total current-fund income[b]	$4,675,513	100.0	$2,656,401	100.0	$2,019,112	100.0
Educational and general income	3,762,532	80.5	2,174,074	81.8	1,588,458	78.7
Tuition and fees from students	939,111	20.1	274,181	10.3	664,929	32.9
Federal government	712,431	15.2	392,521	14.8	319,910	15.8
Veterans' tuition and fees[c]	5,056	.1	1,336	.1	3,720	.2
Land-grant institutions (regular appropriations)	83,937	1.8	82,295	3.1	1,642	.1
Research	534,389	11.4	232,775	8.8	301,613	14.9
Other purposes	89,049	1.9	76,114	2.9	12,935	.6
State governments	1,156,537	24.7	1,128,895	42.5	27,643	1.4
Local governments	129,389	2.8	125,843	4.7	3,546	.2
Endowment earnings	181,638	3.9	15,881	.6	165,758	8.2
Private gifts and grants	324,971	7.0	68,774	2.6	256,197	12.7
Related activities	199,303	4.3	108,400	4.1	90,902	4.5
Sales and services	47,448	1.0	30,864	1.2	16,584	.8
Other sources	71,705	1.5	28,716	1.1	42,989	2.1
Auxiliary enterprises	841,539	18.0	448,989	16.9	392,550	19.4
Student aid income	71,442	1.5	33,338	1.3	38,104	1.9

[a] Source: Preliminary data compiled for Statistics of Higher Education, 1957-58, Biennial Survey of Education in the United States, 1956-58, U.S. Department of Health, Education, and Welfare, Office of Education.

[b] Data are for aggregate United States--50 states and the outlying parts.

[c] Includes tuition and fees for World War II and disabled veterans only. Excludes tuition and fees for Korean veterans enrolled under Public Law 550.

or property taxes. Finally we may require some support for higher education from all sectors of our economy through the allocation of income tax receipts at the federal and/or state level. We assume that additional funds from the voluntary contributions of business concerns and individuals will continue to be forthcoming. It is apparent, however, that voluntary contributions do not and cannot in the future fully support the needs of higher education. Additional measures will have to be taken.

Since the average American citizen will have to provide the ultimate financial support for our college system, how does he propose to go about it? We have established earlier that the average American is sensitive to the value of higher education and that an increasing percentage of people have expectations of providing their children with a college education. How do they propose to finance this? From the alternative solutions cited above which ones appear to be most possible and palatable to the American public? With this question in mind we designed a number of questionnaire items dealing with each of these alternatives.

Controlling College Costs As a Solution to the Financial Problems in Higher Education

To determine the degree to which people feel the financial problems of our college system could be solved through more careful cost control we asked the question presented in Table V-6.

TABLE V-6

"Do you think there is anything the state universities could do to hold down the costs of a college education?"

No	20%
Yes	19
Don't know	59
Not ascertained	2
Total	100%
Number of respondents	1310

Despite the invitation to criticize implicit in this question, we find only one-fifth of our sample maintaining that the colleges could do something to hold down costs. Another 20 per cent feel cost cutting is out of the question while the vast majority readily admit they don't know anything about these matters. Those who criticize the colleges typically refer to "unnecessary frills." Some speak of high teacher salaries or inefficient use of facilities (Table V-7). Generally speaking, it seems clear there is no strong public feeling that economy is the answer to the problem of financing higher education and we find no substantial subgroup within the population which holds this view in any strength.

TABLE V-7

"What do you have in mind?"

Respondents who answered that the state universities could do something to hold down the costs of a college education gave the following elaborations:	
Cut down on the wastage and unnecessary frills in college, e.g., physical education courses, basket weaving, etc.	35%
Cut back teachers' salaries or give more work to teachers	8
Use buildings more efficiently, night classes, classes all day long, summer sessions, etc.	8
Accelerate the programs, increase the number of hours taken in a semester	1
Closed circuit television; larger classes	1
Other	31
Don't know	12
Not ascertained	11
Total	**
Number of respondents	251

There is a certain consistency in the attitudes of those people who tell us college costs could be held down by greater economies since they are found most frequently among those who had earlier offered the opinion that the curtailment of enrollments was not very serious (Table V-8). These people seem to be seeking ways of denying the problem exists, either by insisting that college costs are higher than they need to be or by asserting that the enrollment pressure is not really serious, or both. It should be remembered, however, that they do not comprise a very large proportion of the total population.

TABLE V-8

Cost control measures versus perceptions of seriousness of crisis

Can we hold down costs of college education?	Is turning down students serious? Very serious	Somewhat serious	Not at all serious
Yes	17%	22%	33%

The Restriction of Enrollment as a Solution

A second proposal for the solution of the future financial crisis in our colleges is to reduce or at least not expand the number of college students. This would presumably alleviate much of the anticipated pressure on our college programs. It would not entirely solve the problem since there are already deferred increases in teachers' salaries and rehabilitation of buildings which must be financed. Such a step would, however, considerably lessen the amount of financial support required for higher education in the near future.

The evidence we have reviewed in the preceding chapters gives a clear indication of how the American people would feel about a curtailment in the size of college enrollments. We have seen that practically everyone believes that it is advantageous for a boy or girl to go on to college if given the chance. The vast majority feel college is more important now than it was 20 or 30 years ago. Over 80 per cent say it would be a good thing for this country if more students could go to college. Finally from 50 to 70 per cent of parents with children under 18 expect their own boys or girls to go on to college. Seventy per cent may be unrealistic as an objective, but 50 per cent may represent the effective demand for higher education in the future. Far from any curtailment of enrollments, the American people seem to be vitally interested in an expansion of the college-student population.

For more direct evidence as to the nature of public feeling regarding expansion or restriction of enrollments in our colleges we posed these alternatives directly to our respondents. First, we presented the respondents with the alternative of the restriction of enrollments on the basis of mental ability or the building of more colleges so more students can attend (Table V-9). Public response overwhelmingly favors the construction of more colleges. Only eight per cent of our sample feel that we ought to let only the brightest students go to college.

TABLE V-9

"Some people think there are already too many young people going to college. They want to let only the brightest students go to college. Others think we ought to build more colleges so more students can go. How do you feel about this?"

We ought to build more colleges so more students can go	79%
We ought to let only the brightest students go to college	8
Don't know	5
Not ascertained	8
Total	100%
Number of respondents	1310

As might be expected, this eight per cent is largely made up of those who feel that turning away students is not a serious problem. and who feel that there should be fewer students going to college. This small minority of the population seems to be adamantly opposed to any expansion of college enrollments, presumably because of their opposition to increased expenditures.

When we asked our respondents to explain their choices in response to this question we found sharply contrasting points of view (Table V-10). The rationale of those who favored an expansion of our college system tended to emphasize egalitarian concepts, i.e., "everybody should have a chance who wants to go to college." There is also a sizable percentage of these people who feel that although we should expand our enrollments we should be more selective in admitting students; not, however, on the basis of brightness but rather on the more nebulous dimension of motivation. Among respondents who feel there should be a general restriction of enrollments, there is rejection of the argument that college training should be available for everyone and the assertion of the belief that it is a waste of time for all but the brightest students.

Despite this small coterie of objectors, it is obvious that the vast majority of the public favor an expansion of our college system. Also they are, in the main, either pessimistic or unsure about any possibilities of cost reduction in the colleges as a means of reducing financial pressures. Thus, faced with an expanding demand for higher education, an expansion which is readily endorsed by the majority of the American public, how does the average American plan to pay for this

TABLE V-10

"Why do you feel that way?"

Respondents who answered we ought to build more colleges so more students can go gave the following reasons:	
Everybody should have a chance who wants to go to college; democratic way responses	65%
Deserving or serious minded students should go; select students on basis other than brightness	17
We need more trained people rather than less	4
Education makes intelligent and informed voters; good citizens	2
More education will help solve many of our social problems, e.g., delinquency, prejudice	*
Unemployment	*
Other	8
Don't know	*
Not ascertained	9
Total	**
Number of respondents	1033

Respondents who answered we ought to let only the brightest students go to college gave the following reasons:	
College training does these people the most good; it is a waste of time for others; not everybody should go to college	66%
We need other skills, other kinds of talent more, e.g., skilled workers, craftsmen	7
Just can't afford to send everybody to college who wants to go	6
The more competition, the harder students work; keeps standards high	3
We would get more for our taxes; spend tax money on other needs	1
Other	11
Not ascertained	13
Total	**
Number of respondents	110

costly venture? Since the bill will be presented in some fashion to the average citizen, it is important to know which of the alternative plans for financing higher education is most acceptable to the public. Or is the American public expecting something for which it is unable or unwilling to pay?

State Tax Support Versus Individual Student Support for Higher Education

One of the more crucial choice points in the financing of higher education is the question of whether the society in general should be responsible for supporting a college system or whether the students themselves and their families should bear the principal burden. Historically, of course, in our publicly supported schools we have adhered to the policy of large scale state tax support with minimal contributions by the students in the form of low tuition rates. Low tuition rates have been typical not only in our state schools but also until recently in our privately endowed universities. Both types of schools have been forced into much higher tuition rates since World War II as a result of the rising enrollments and accompanying costs.

In order to assess public feeling about this question we presented our sample with the two alternatives, more state support or higher contributions by the students and their families. Although the American people are quite uniformly in favor of higher education, it is obvious from Table V-11 that they are not in full agreement about the method of

TABLE V-11

"Some people would like to see the student pay more so the state wouldn't have to pay so much. Other people feel the state should pay more so the student would pay less. How do you feel about this? Should the student pay more, or should the state pay more, or don't you have any opinion on this?"

All right the way it is	31%
State pay more, student less	24
Student pay more, state less	13
Don't know	30
Not ascertained	2
Total	100%
Number of respondents	1310

financing our college program. There is a sizable percentage of people advocating each of three alternatives, more state support, more student contributions, or leaving things as they are now. A third of our respondents had no opinion on this crucial issue.

Those advocating the status quo feel there is a reasonable balance now with both the state and the students assuming their responsibilities (Table V-12). Among those feeling that the state should assume more of the burden, the primary concern is that of guaranteeing that deserving young people are not prevented from entering colleges because of high tuition. A high percentage, 31 per cent, of those people advocating less state support actually reject the idea of state subsidization of higher education. Their position is in direct opposition to the nation's historical practice. An additional 25 per cent just feel that taxpayers are too overburdened. Finally 15 per cent of these people equivocate a bit in their answers, maintaining that students should pay more if they are able. It is interesting to note that in all three groups of respondents, those advocating more state support, those supporting the idea of higher student contributions, and those endorsing the status quo, a small percentage feel the student should pay more "if he is able."

TABLE V-12

"Why do you feel this way?"	
Respondents who answered that it is all right the way it is gave the following reasons:	
Tuition is high now; balance between tuition and tax support is about right	31%
State exercising reasonable control, reasonable support, meeting its responsibilities	17
Students and families should bear cost; state should not increase support	17
If student is able, should pay more of his own way; if not able, state should pay	9
State has recently increased support, e.g., scholarships, faculty salaries, building programs	1
Education is important; college should be primary concern	1
Other	12
Don't know	2
Not ascertained	18
Total	**
Number of respondents	401

Respondents who answered that the state should pay more, the student less gave the following reasons:

Tuitions too high; students and families cannot meet costs; deserving young people cannot afford college	57%
Education is important; college should be a primary concern	10
If student is able, should pay more of his own way; if not able, state should pay	9
Young people are being turned away; enrollment will rise because of population increases and should be provided for	4
Other	11
Not ascertained	14
Total	**
Number of respondents	316

Respondents who answered that the student should pay more, the state less gave the following reasons:

Students and families should bear costs; state should not subsidize education	31%
Taxes too high; taxpayers overburdened	25
If student is able, should pay more of his own way; if not able, state should pay	15
Colleges are inefficient, waste money, ought to use facilities on twelve months' basis or pay teachers less	4
People of state have other needs more pressing; other things more important for state to do	2
Other	23
Don't know	1
Not ascertained	11
Total	**
Number of respondents	171

There were no great differences between people of different income and educational levels in their opinions on this question although people of lower status were generally less ready to take any stand on this issue. There were differences, however, between partisans of the two major political parties, with Republican adherents more often in favor of the student's assuming more of the financial burden of his education, and Democrats more frequently favoring increased state subsidization.

Negroes in our society are also in favor of more state aid to higher education, undoubtedly reflecting both their concern with promoting the college program and their individual inability to pay for this expansion.

The group of people over forty-five with no children under twenty-five, who as we have seen earlier typically feel no expansion is needed, also feel any expansion that is carried out should be paid for by the students themselves.

It would appear that on this critical choice of increased public or individual support for higher education there is no genuine consensus of opinion among the American people. A third of our sample is so poorly informed it cannot answer our question. An additional third avoid the intent of the question by proposing that we continue the present tuition system, probably with very little comprehension of what this would eventually mean in student fees. Of the rest, the majority favor greater state support but they comprise only a quarter of the total sample. Public opinion has obviously not crystallized on this issue.

Increased Support for Higher Education from State Tax Receipts

It seems likely that any large scale future expansion in the higher education system will require financial support from all sectors of society. Even with substantial increases in private and corporate gifts and additional raises in tuition, there will not be enough money to provide for the expansion of facilities required for the anticipated enrollments. The problem will inevitably fall back on the taxing authority of the state and federal governments.

In order to find some indication of public reaction to the prospect of increased taxation at the state level, we asked our respondents whether they would be willing to pay a little more to support their state colleges. As we see in Table V-13, there is very little equivocation in the public mind when it comes to paying taxes. The vast majority of people are clearly on one side or the other. We do not take our survey to be a plebiscite on the subject of taxes; it is easier to be generous in an interview than in a voting booth. Perhaps the most significant statistic to be taken from this table is the sizable fraction of the sample who bluntly state that they are not prepared to pay higher taxes to help the colleges. Obviously a good many people who had told us earlier that they favored an expansion of college facilities were now telling us that they were not willing to help pay the the bill.

We are not surprised to find that the greatest resistance to a raise in taxes appears among people with incomes under $3,000. Although the percentage of people against an increase in taxes ranges from 26 to 32 per cent in other income groups, this figure jumps to 41 per cent among people in this lowest income bracket. Consistent with this finding, people with low levels of educational attainment are also more

TABLE V-13

"If the people of (...name of state...) were asked to pay a little more in taxes so that more young people in (...name of state...) could go on to college, do you think you would vote for this or against it?"

For	61%
Against	33
Don't know	4
Not ascertained	2
Total	100%
Number of respondents	1310

likely to vote against a raise in taxes. Thus among people with the least money, who feel any deduction from their incomes is critical, there is the greatest reaction against a raise in taxes for the financing of higher education. Yet these same people represent the strongest supporters of proposals that financial support should come from the state rather than the individual and that all people should be entitled to a college education if they want it. This apparently paradoxical finding is entirely in keeping with the results of other studies and reflects the economic basis of both need for service and ability to pay.[12] In contrast, leaders of social organizations and other people from the higher income and more highly educated segments of society maintain they would be willing to pay a little more in taxes for the support of higher education.

As on many of our other questions, if one groups older people over 65 and those over 45 with no children under 25 years of age, one finds a higher proportion of people against any additional assistance to higher education. These people are at least consistent. They have been less favorable than the general public to our proposals of expansion of the college system and they are less ready to accept increased taxes for its support.

We will return to this question of resistance to school taxes at a later point. Our simple question is enough to tell us that a substantial fraction of the public want someone else to pay the costs of higher education. We cannot assume from the fact that a majority of our sample expressed a willingness to give the colleges greater tax support that proposals of this kind will find strong backing in the legislatures of the various states. The problem is obviously much more complex. We can conclude, however, that there is a broad base of support for the public colleges, especially in those strata of society which are typically most active and effective. It remains to be seen whether this support can be mobilized in a degree adequate to the demand.

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[12] See Campbell, Angus, "Social and Psychological Determinants of Voting Behavior" in Politics of Age, Wilma Donahue and Clark Tibbitts (Ed.), University of Michigan, 1962, for a discussion of the disparity between the support of older people for social welfare programs and their willingness to pay additional taxes to finance these programs.

Federal Aid to Education

No questions regarding federal aid to education were asked in the particular study we are reporting here. However, data are available from a related inquiry conducted by the Survey Research Center for the Joint Office of Institutional Research. The tables in the following section are drawn from that study.

The issue of federal aid to education is a complicated one which we cannot undertake to consider fully here. As we have mentioned earlier, the Federal Government has supported higher education for many years and especially since the passage of the Morrill Act in 1862. The current debate does not concern any of these familiar forms of support but centers around the propriety of new forms of federal financing to help meet the developing crisis. This is not the place to argue the pros and cons of this issue. Our interest is in reviewing the meager data on public attitudes toward this proposed federal aid which are available from the report of the Joint Office of Institutional Research study.[13]

The Joint Commission posed the question directly, "Should the government in Washington help pay for running the state universities" (Table V-14).

The population is almost evenly divided in its response to this question, with 40 per cent in favor of federal aid and 42 per cent against it. There is a relatively small percentage of uncommitted people, with 14 per cent of the respondents giving a "don't know" response. We unfortunately do not have any information on the reasons behind these responses. There was a following question, however, which asked the respondents how they felt federal aid should be distributed if the government did give money for college support. Should it be given to the states or to the students directly (Table V-15)? The majority of respondents choose the former alternative, favoring

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[13] See "The Public Image of State and Private Universities," by William C. Eckerman, Survey Research Center, University of Michigan, March 1964.

TABLE V-14

"Some people say the government in Washington ought to help pay for running the state universities. Other people think the government ought not be involved in education. How do you feel about this?"

Yes, the government ought to help state universities	40%
No, the government ought not be involved in education	42
Don't know	14
Not ascertained	4
Total	100%
Number of respondents	1310

TABLE V-15

"If the government did give money for college education, it could either give it to the states to help them build more college buildings or it could give it to the students to help pay their way through college. *Which way do you think would be better?*"

Give it to the states to build more college buildings	53%
Give it to the students to help pay their way through college	25
Don't know	11
Not ascertained	11
Total	100%
Number of respondents	1310

giving the money directly to the states, mainly because college expansion is needed and the states would administer the funds better than would individual students (Table V-16). A quarter of the sample, however, feel the funds ought to go directly to the students since this would allow an additional number of worthy students to go to college and would also minimize the effect of federal interference.

TABLE V-16

"Why is that?"

Respondents who answered that the money should be given to the states to build more college buildings gave the following reasons:	
College expansion is needed; colleges are overcrowded; more buildings are needed	42%
Giving to the students would result in waste of funds; can't handle money, can't be trusted, etc.	22
This will allow the states to allocate the funds as they see fit	9
Students and families should bear costs	6
This will not interfere in any way with cirriculum, teachers' salaries and other sensitive issues	2
Some colleges need funds more than others; states are not equal in their resources	1
Other	15
Don't know	1
Not ascertained	8
Total	**
Number of respondents	692
Respondents who answered that the money should be given to the students to help pay their way through college gave the following reasons:	
This will allow worthy students who cannot now go to college; students need the money	46%
No federal interference with state functioning; avoid bureaucracy; reduce administrative costs or burdens	18
This will distribute the money more widely; help small schools; not fair to penalize private schools; private schools need this subsidy too	3
Money will go to colleges that need it most, where enrollments are highest	3
Competition for students will raise standards of all colleges	*
Other	19
Don't know	1
Not ascertained	14
Total	**
Number of respondents	329

When one considers subgroup opinion on these questions, however, one gets almost a reversal of the trends found with other questions. Respondents with incomes of over $10,000 a year are much more frequently against federal aid than people of under $5,000 income. The more highly educated groups, those with at least some college or more, are more often against federal aid to education than are their less educated fellow citizens. Possibly because they are interested in federal aid to private schools, Catholics are more in favor of federal aid than are Protestants. Reflecting less concern with government intervention, there are more Democrats than Republicans among advocates of federal aid. Negroes are also substantially more positive about the prospect of federal aid than are whites. On the dimension of social leadership we find those most engaged in organizational activity being most against federal aid. Non-members of organizations, who are usually of lower income and education groups, are much less disturbed at the prospect of federal intervention in education.

Older citizens (over 65) are not only against increased state support but are also against any federal aid to higher education. This appears to reflect an aversion to any kind of tax increase for the benefit of higher education. As usual this negative response holds also for the group of people over 45 with no children under 25. Finally people from those states which contribute most in state taxes for the support of higher education are those most frequently against federal aid to education.

When it comes to considering where federal aid ought to go if there is increased federal aid, the differences of opinion among the subgroups are much less substantial. Young people under 35 years of age are more often in favor of having the states use the money for the expansion of building programs. Negroes and non-members of organizations are also more likely to suggest turning the money over to the states. Among religious groups, though, Catholics and Jews more frequently endorse the idea of giving federal aid directly to the student. In general this does not seem to be a question on which public opinion has become stratified.

Although it would be hazardous to generalize too broadly from the limited data from the Joint Commission survey, it appears that the whole question of federal aid to education is a moot issue in the public mind. The particular question asked divided the respondents about equally for and against. Other surveys, using different questions, have reported somewhat different divisions of opinion.[14] These surveys consistently show, however, that the opposition to proposals of federal aid is strongest in those sectors of society with greatest educational, economic and organizational achievement. The support comes from the less advantaged levels. This presents an intriguing contrast to the division of opinion we found in response to our question regarding increasing taxes at the state level to support state colleges (Table V-13). In that case the location of support and opposition was exactly reversed with the advantaged groups being willing to pay the increased tax and the disadvantaged being much more reluctant.

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[14] See Campbell, Angus, Converse, Philip E., Miller, Warren E. and Stokes, Donald E., The American Voter. New York: John Wiley and Sons, Inc., 1960.

The evidence at hand is not sufficient to permit us to do more than speculate as to the meaning of these differences. We know in general that apprehensions regarding the growth of federal authority are less common among people with limited schooling and status than they are among people of higher accomplishment. We may surmise that the federal government is a more remote concept to the former than to the latter. We also know that people whose ability to pay taxes is limited are generally more likely to oppose increased taxes than people of greater means. Apparently in the present case, since the question on federal aid did not specifically propose new taxation, some of the support given to the proposal must have been given without consideration of where the federal aid was ultimately going to come from.

Resources of Students and Their Families for Financing a College Education

None of the alternative proposals we have been considering has assumed that the student himself would be relieved of responsibility of paying some part of his college costs. We have taken for granted that the system of shared support which has been traditional in this country will continue. This means that any family which thinks of sending a son or daughter to college must find private funds to help him through. We closed our interview by asking those parents who had told us they expected one or more of their children to go to college what provision they were making to pay the costs that would be incurred. Our purpose was to assess the general adequacy of funds in the hands of that part of the public which will be making the most direct demands on the colleges. We assume that the less adequate these private resources are, the stronger will be the pressure for greater support of higher education by the state or federal government.

We must note at the outset that college costs have been rising along with other costs of living over the past few years. Part of this rise, of course, is due to higher rental rates and food prices, reflected in that part of the student's budget going to board and room expenses. Tuition and other student fees have also risen dramatically, particularly for the out-of-state student. Table V-17 indicates the trend of college costs to the student and his family over the years.

These figures cover the major costs but, of course, do not include other miscellaneous but sizable expenses for travel, books, services, and entertainment. Also board and room estimates are for students residing on campus. These figures exceed the cost figures for local area students commuting to school while living at home.

TABLE V-17

Trends in annual undergraduate college costs to students in ninety-nine privately-controlled and thirty-three publicly-controlled institutions, selected years 1928-1960[a]

Year	Total major costs[b]		
	Private	Public	
		Resident	Non-resident
1928	$ 605	$389	$ 436
1932	674	419	483
1936	660	398	479
1940	697	438	528
1948	946	591	739
1952	1116	699	885
1956	1306	779	1007
1960	1671	930	1243

[a] Source: Data derived from "A Fact Book on Higher Education" by the Office of Statistical Information and Research of the American Council on Education.

[b] Includes tuition fees, room and board.

As a first step in gauging the average family's state of preparation for financing college education, we asked each parent for his estimate of the cost of educating one of his children for one year. "How much do you think it will cost to send (your child, one of them) to college for a year, counting board and room, tuition, fees, books, clothes, travel, and anything else?" The estimates based on this question are not strictly comparable to those shown in Table V-17 since the additional expenses beyond tuition, room and board are taken into account. Also we gave these people no time perspective so that some may have estimated the cost of educating a child who is now five years old, ten to fifteen years from now. Discounting these factors, the average estimate for the total cost of educating a child for one year at college was $1947.[15] Considering the additional miscellaneous costs specified in this question and price increases since 1960, our sample seems to have a reasonably realistic perception of the costs of higher education.

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[15] See Parents' College Plans Study, Elmo Roper and Associates, 1959. Using the same kind of all-inclusive cost question Roper found the median estimate of the cost of a year at college to be $1,450. The figures in this report are based on the mean and reflect an awareness of increasing college costs since 1959.

Whether a person's estimate of the cost of higher education is high or low, the crucial question is whether he is making any financial provisions for meeting these expenses. Our first question in this area had to do with whether the family had saved any money at all for college up to this point. Table V-18 indicated that of those families who expect to send one or more children to college, 50 per cent have nothing saved.[16]

TABLE V-18

"Do you have any money saved up that can help pay for (his, her, their) college education?"

Yes	49%
No	50
Not ascertained	1
Total	100%
Number of respondents	506

Aside from the question of whether a savings program exists, there is the question of whether people are accumulating savings rapidly enough to be assured of sufficient savings when the time comes to send a child to college. Our second probe on how much people saved in the last year, asked only of those people who had said they had some savings, was designed to get at this problem. Among those who maintain they do have an education fund, the average savings amounted to $378. For the entire group of parents who plan on sending one or more children to college the average savings figure for last year was $162.

It is interesting to examine the distribution of answers on this savings question for the entire group of parents (Table V-19). Seventy-one per cent of these people have no savings at all, saved nothing last year or did not give us a specific answer. A select six per cent of our sample reported saving over a thousand dollars during the preceding year. The remaining families ranged in amounts saved down to under $100. At that rate and at current costs it would take a very long time to finance one year of college for one child.

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[16] See Lansing, John B., Lorimer, Thomas, Moriguchi, Chikashi, How People Pay for College. Ann Arbor: Survey Research Center, The University of Michigan, 1960. Lansing et al. report quite comparable figures.

TABLE V-19

"About how much money were you able to put aside this last year for your child's education?"

None	61%
$1-99	4
$100-249	8
$250-499	4
$500-749	6
$750-999	1
$1000-1249	3
$1250-1499	-
$1500 and over	3
Don't know; not ascertained	10
Total	100%
Number of respondents	506

When we consider the amount of savings for educational purposes among various segments of the population, we find, as would be expected, much higher figures for current saving among higher income and more highly educated people. It is also true that the lower one goes in the hierarchy of income and education, the lower the proportion of people who actually have any savings set aside for educating their children. In other words, the people whose incomes are too low to allow financing a college education directly out of current income are the least likely to have accumulated reserves.

In addition to differences in saving by these income and education groups, savings programs vary for other segments of our society. Savings, of course, increase with the age of the head of the household, reflecting both increased incomes and the approaching period at which children reach college age. Catholics rank above Protestants in average savings for higher education. Negroes, being disadvantaged in terms of both income and education, save less on the average than whites.

In additional questions we find that 80 per cent of those parents who report educational savings say this money has come from their own income while the rest say it has come from gifts or inheritances. People have their savings in various forms, with endowment policies and insurance being a form of saving for 42 per cent, savings accounts for 37 per

TABLE V-20

Average amount saved last year by parents expecting to send one or more children to college

	Education of head of household		
	None; grade school; some high school, some high school and non-academic	High school, high school and non-academic, some college	College degree
Mean amount savings program	$194	$375	$719
Number of respondents	68	82	39
Mean amount total group	$ 75	$156	$412
Number of respondents	175	198	68

	Income of head of household			
	Under $5000	$5000-9999	$10,000-14,999	$15,000-and over
Mean amount savings program	$148	$334	$338	$841
Number of respondents	26	102	38	23
Mean amount total group	$ 36	$145	$188	$543
Number of respondents	107	234	67	36

cent, savings bonds for 15 per cent, and corporate stock for 10 per cent of these plans. It should be noted that 40 per cent of the people who saved for education last year admit that some of the money might be used for other than educational purposes. There is thus no guarantee that the small amounts of savings we have been discussing will actually be allocated in their entirety to financing a college education.

In summarizing the responses to our questions on savings for college education we must accept the likelihood that the data given are far from exact. Few households manage their budgets with an accountant's precision and the statements given our interviewers should be treated as rough approximations. They are sufficient, however, to make it clear that many families who are intent on sending their children to college will have to find financial resources beyond those they have in hand. Of course this is by no means a new problem. For many years college students have pieced out their budgets through loans, scholarships or income from part-time or summer jobs. But college costs are rising rapidly, as we have seen, and it will become increasingly difficult for families of modest means to provide the substantial support their children will require.

In view of the great value which is almost universally attached to a college education we cannot doubt that a great many parents will perform prodigies in their children's behalf. We know, for example, that one of the major motives that has drawn married women into the labor market in recent years has been the need to earn money to help send a child to college. But we already see from our data that financial disability is a serious impediment to many low income families who hope to send their child to college. Despite the many expressions of belief recorded in this survey that every American child who is qualified has a "right" to a college education it is clear that economic factors are a major screen to college entrance and with college costs rising more rapidly than average income they promise to become more important rather than less.

A Special Analysis of Opposition to Educational Appropriations

A third of our respondents told us that they would not be willing "to pay a little more in taxes so that more young people (in their state) could go on to college." We find that they come from the older, less affluent, section of the population and we assume that their reluctance must spring in part at least from a feeling of financial pressure and an inability to allocate an additional part of a limited income to taxes. If this rationale is correct we should also expect these people to object to higher appropriations for the grade schools and high schools in their local communities.

In order to classify our respondents in regard to their degree of support of local school appropriations we asked the following question:

> "When they have elections here to vote money for new school buildings, increases in teachers' salaries and that sort of thing, are you usually in favor of them, usually against them, or are you in favor of some and against some?"

While almost a third of the sample chose the "for some, against some" category, an additional four per cent stated bluntly that they usually voted "No." When we look closely at these fifty people we find that forty-five of them had also stated they were opposed to any increase in taxes for the support of higher education. These forty-five people, representing approximately 3.5 per cent of the total sample, seem to be the irreducible hard core of opposition to any expansion of educational expenditures. What are their positions on the issues considered in this report and where are they located in the social order?

One of our first controversial questions was whether it was a good thing for our country to spend more than any other country on education. Five per cent of the people in the overall sample felt this was not a good thing to do and felt fewer young people should go to college. Among our forty-five dissenters, this figure was 28 per cent. On the more direct question of whether more students should be allowed to go on to college, 83 per cent of the total group endorsed the idea. This figure was only 65 per cent among this select group of forty-five.

We asked respondents whether they felt turning down college applicants was a serious problem. About nine per cent of the general sample felt that this was not really a serious problem. Twenty per cent of our selected group held this opinion. One screening device suggested was to allow only the brightest students to go on to college. Only eight per cent of the total sample reacted favorably to this proposal while 24 per cent of our selected subgroup agreed with the idea. Although the majority of the public had no idea whether the cost of a college education could be reduced, one in five did feel such savings could be made. Among our consistent dissenters, the figure was one in three.

It seems that in addition to being less supportive of the expansion of higher education, this small opposition group is also disturbed about state and local school conditions. While a negligible one per cent of the entire sample felt their own state was doing too much in making it possible for young people to go to college, eleven per cent of this select group express this opinion. On the question of local support, the relationship is even more striking. Four per cent of our total sample feel their local schools are getting too much support while 20 per cent of our consistent dissenters feel this way about their local school systems.

Clearly enough this little knot of anti-tax people are generally less favorable than the rest of the population to the expansion of educational facilities. They are not entirely consistent; on abstract questions they sometimes approve propositions which they would doubtless oppose if translated into tax proposals. But they have their positions sufficiently rationalized to put up a respectable show of opposition to a variety of questions implying educational expansion. In this respect they differ from the much larger group who expressed opposition only to new taxes for college expansion; that group was generally more favorable to these same proposals than the population at large.

We would expect from our earlier data that these 45 people would not resemble the rest of the population in their personal and social characteristics. This is indeed the case and the differences are sharper than those we have seen in the previous analyses of dissenting opinion. In terms of economic status, 49 per cent of these people have incomes of under $3000 a year. The representation of this income group in the total sample is about 25 per cent, so that these low income people are represented twice as often in this opposition group as they are in the total population. Thirty-two per cent of the total sample are over fifty-five years of age; 51 per cent of this selected group are in this age bracket. Being older, these people have fewer dependent children. While people over forty-five with no children under twenty-five years of age represent 35 per cent of our total sample, 56 per cent of our forty-five dissenters are in this group. These people are also overrepresented among the socially inactive segment of the population, with 68 per cent claiming no membership in any social, religious, political, or professional organization. In the general sample, 58 per cent of the people fall into this category. The relationship with educational level is not strong. While 51 per cent of the general population has less than a high school education, 59 per cent of this small group are in this classification, a difference which may simply reflect their greater than average age.

The combination of characteristics which seems to contribute to the sensitivity to taxes which distinguishes these people is low income, advanced age, and lack of direct responsibility for children of school age. Half of them are at or approaching retirement age and are faced with the problem of a fixed or declining income in a period of rising costs. Other research has shown the vulnerability of such people, especially those who own property which has a high assessed value relative to the family income.[17] These people make up only a small fraction of the total population of course but their attitudes may be taken to represent in exaggerated degree similar attitudes held with less intensity by a much larger number of people whose situation contains some element of economic stress and detachment from the school-age generation.

Summary

The current crisis in higher education has been brought about by a combination of increasing numbers of college-age youth, rising levels of aspiration for college training, increased costs of faculties and facilities at the college level, and inadequate provision to meet these developing trends. None of the solutions now available can be effective without a major reallocation of private and public funds.

If it were possible to hold the capacities of the nation's higher education system near their present level the financial problems involved would not be too serious. But in view of the public demand for college training shown both by the rising enrollments and by our survey data this seems a wholly unrealistic alternative. The capacities of the colleges must be enlarged and the cost of this enlargement, even by conservative estimates, will be prodigious.

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[17] See Pelz, Donald C., Voter Attitudes on Two School Millage and Bond Elections. Survey Research Center, The University of Michigan, February, 1964. Pelz found people with high property value relative to income being most opposed to local millage and bond proposals.

We assume that these increased funds will come from many sources. It seems unlikely that the role played by private philanthropy will be as important in the future as it has been in the past. Efforts will certainly be made to increase the contributions of business organizations and the other more traditional donors but the burden will be too great to be carried in this way. The bulk of the support will come, as it does at present, from the public agencies and from the student himself. The major question is how the costs will be divided between these two sources.

If the major burden of the increasing budget for higher education is thrown directly on the student and his family, economic qualifications will inevitably become an even more important basis of selection for college entrance than they are at present. Quite aside from the wastage of talent which such a system of selection implies, it is quite likely to stir widespread repercussions in public opinion, not only among those families which are directly disadvantaged but also among that considerable part of the public who seem to feel that a college education should be the right of the qualified graduate.

Increased public support inevitably means increased taxes and as we have seen there is a considerable amount of blunt resistance to the general prospect of tax increases for higher education and we must assume that there would be additional objection to any specific proposal. We find the not unfamiliar situation of a public which wants services from its governmental agencies but is reluctant to pay for them and the greatest reluctance being expressed by those economically straightened sections of society which are most anxious to receive the service.

Resistance to increased appropriations at the state level will inevitably increase pressure for federal aid to education. This also raises questions of public opinion since there is clearly a substantial amount of doubt in the public mind regarding federal involvement in education. Despite the fact that federal funds have gone to the land grant colleges for the past hundred years there is widespread apprehension, especially among the higher status groups, concerning the expansion of this aid. The most important unanswered question in the developing crisis of higher education would appear to be whether, to what extent, and in what forms the federal government will help meet the rising financial requirements of an expanding system of higher education.

CHAPTER VI

SUMMARY

A study of public thinking regarding the costs and values of higher education inevitably becomes an inquiry into ignorance and sophistication, interest and disinterest, conviction and uncertainty, logic and illogic. The problems of higher education have very different degrees of reality and meaning to the different members of our heterogeneous society. The public is used to thinking of education as a universal good; it is not accustomed to considering alternative ways of financing an expanding system of higher education. Our survey undertakes to describe a public opinion which is only partly formed, is frequently uninformed, and is sometimes woefully confused and conflicted.

The personal value of an advanced education is universally recognized in our society. Every year of schooling through high school and college is seen as a positive advantage; dropping out to take a job is deplored. In large part education is valued because it is seen as opening the way to higher income and preferred occupational status. There is widespread awareness of the fact that the labor market is moving increasingly toward more highly trained skills and this is associated with the belief that advanced training is now more essential to individual success than ever before. The less utilitarian values of a higher education are also recognized, particularly among that part of the population which has had college training. But for most people these values are secondary to the main function of a college education, to prepare a man or woman to compete successfully in the job market.

Although the public is generally ready to agree that our uniquely broad system of higher education is "a good thing" for the country it is not very explicit in its explanations as to why this is true. It sees in part at least the increasing requirements of a highly technological economy but it has no comprehension of the growing shortages of personnel in the engineering, medical, teaching and other professions. There are some people who speak in a general way of the importance of an educated electorate in a democratic society. A small minority of the population relates the nation's investment in higher education to its position in the international scene. The Sputnik reaction was obviously much more intense among the educational profession than it was among the general public. To a nation accustomed for generations to thinking of education as the surest way to personal aggrandizement, the concept of the social value of a broad system of college education seems less familiar. Very few people think the country would be better off if there were fewer college graduates but people generally are more accustomed to thinking of college as having value to the individual than to society as a whole.

The public is not very acutely aware of the growing pressure of enrollments on the nation's colleges. Within the individual states only a minority appear to be dissatisfied with the support their state is giving the state colleges, although this varies a good deal with the actual level of support being given. Most people feel it would be a serious matter if the colleges had to turn away qualified students; many of them seem to regard a college education as a right of American youth. The great majority of the public object to the prospect of restricting enrollments to the brightest students; they would prefer to see more colleges built. The public approves of college training. It feels it is even more important now than it was a generation ago, and, in the absence of considerations of cost, it is supportive and expansive in its attitudes toward the future development of higher education.

Very few people have a realistic comprehension of the financial demands which an expanding system of higher education will make of the nation. When asked to consider alternative ways of meeting these rising costs the public tends either to propose a continuation of the present balance of individual tuition and state support or to admit that is has no opinion on the subject. For the most part people are prepared to think about a modest increase in their state's taxes for the benefit of the state colleges but one person in three rejects this suggestion out of hand. This resistance comes mainly from the less advantaged sections of society, particularly those people with no direct responsibility for school age youth. Public opinion is clearly not prepared for the very substantial increases in educational expenditures which are inevitable if the rising demand for college education is to be met.

Although people in general are not well informed or greatly concerned about these broad questions of social policy regarding higher education, they are very much involved in the education of their own children. A high proportion of all parents now say they expect their children to go to college. This proportion diminishes sharply as these children approach college age and considerations of reality intrude. But parental aspirations for their children are high and it is clear that as a larger proportion of high school graduates come from parents who are themselves college-educated the demand will become increasingly insistent.

Despite the American tradition of free public education the likelihood of a boy or girl reaching college in this country is clearly associated with the economic status of his family. This relationship reflects other factors as well as economic status itself and no doubt existed long before the present period. The steeply rising cost of sending a child to college is sharpening the question of ability to pay as a qualification for college entrance. It is clear that the educational savings being set aside by parents who expect to send their children to college is in most cases quite inadequate and must be supplemented from current income or other sources. If the disparity between the costs of a college education and the individual family's capacity to pay increases, it can be expected that pressure for alternative solutions to the problem will also increase. It is most unlikely that the problem will be solved by a decline in public demand for college education.

We cannot assume that this description of public attitudes as they were measured in 1963 will remain valid for any protracted period into the future. On the contrary we expect that the developing crisis in higher education will compel action on the part of both state and national governmental agencies and that public opinion will both influence these actions and be influenced by them. Basic social and economic changes now in process in this country will also have effects on public values and aspirations in the field of education. The present study tells us where the public stood in the spring of 1963; it also provides a benchmark which will help us understand the trends in public attitudes in the future.

APPENDIX A

INTERVIEW QUESTIONS

E1. As you know there is a lot of talk these days about schools and education. How about your own case? Did you go as far in school as you wanted to go, or did you have to drop out before you wanted to?

____

(IF DROPPED OUT) E1a. Why was that? ______________________________

____

____

E2. Now thinking about conditions today, suppose a high school boy knew he couldn't go to college and he got a chance to take a job when he was sixteen. Do you think he should take the job, or should he stay in high school until he graduated?

____

____

E2a. Why do you think that? ______________________________________

____

E3. How about a girl? Should she take the job when she was 16, or should she stay in high school until she graduated?

____

E3a. Why? ____

____

E4. Suppose a boy graduates from high school and he knows he can get into college but he can only afford to go for two years. If he has a chance to take a job, should he take it, or should he go to college for two years?

____

E4a. Why do you say that? ______________________________________

____

E5. How about a girl? Should she take the job, or should she go to college for two years?

____

E5a. Why? ____________________________________

____

E6. Would you say it is more important now for a boy or girl to go to college than it was 20 or 30 years ago, or is it less important, or isn't there any difference?

☐ MORE IMPORTANT ☐ LESS IMPORTANT ☐ NO DIFFERENCE

E6a. Why? ____________________________________

____

(HAND CARD 1 TO RESPONDENT)

E7. Suppose you were sending a son to college. Here are some of the things people say they want their sons to get out of college. Which one do you think is most important?

(a)_____ TRAINING FOR A GOOD JOB AFTER HE GRADUATES

(b)_____ CHANCE TO TAKE PART IN SPORTS AND ATHLETICS

(c)_____ CHANCE TO MEET A BETTER CLASS OF FRIENDS

(d)_____ LEARN HOW TO BE SOCIABLE AND GET ALONG WITH PEOPLE

(e)_____ INCREASE HIS UNDERSTANDING OF THE WORLD AND HIMSELF

(f)_____ DEVELOP HIS INTEREST IN GOOD BOOKS, MUSIC AND ART

(INTERVIEWER)

INDICATE MOST IMPORTANT BY WRITING "1" ON THE LINE NEXT TO R's CHOICE; THEN GO ON WITH Q. E7a.

E7a. Why did you choose that as the most important? ________________

____

E7b. Which of these reasons for sending a boy to college do you think is the next most important, third most important, fourth in importance, and so on?

(INTERVIEWER)

PUT A NUMBER "2" ON THE LINE NEXT TO R's SECOND CHOICE, A "3" ON THE LINE NEXT TO THIRD CHOICE, AND SO ON, UNTIL ALL THE ABOVE REASONS ARE RANKED FROM 1 TO 6. THEN, GO ON WITH Q. E8.

E8. Suppose you were sending a daughter to college. Which of these same things would you say is most important for a girl to get out of college?

(RANK "1" FOR
MOST IMPORTANT) (a)_____ (b)_____ (c)_____

(d)_____ (e)_____ (f)_____

E8a. Why did you choose that as the most important? ____________________

____

E8b. Which of these reasons for sending a girl to college do you think is next most important, third most important, fourth in importance, and so on?
(RANK LINES IN Q. E8 AS YOU DID FOR Q. E7 ABOVE)

E9. Of course, most young people change during college. They are different when they come out than when they went in. In some ways they are better, in some ways they are not so good. Are there any ways you think some young people are NOT so good after going to college?

☐ YES, NOT SO GOOD ☐ NO ☐ DON'T KNOW

(GO TO Q. E10)

____

E9a. What do you have in mind? ____________________

____

____

____

E10. This country spends more money on college education than any other country in the world. Do you think this is a good thing for our country to do, or would it be better not to have so many young people go to college?

____

E10a. Why do you think that? ____________________

____

E11. Some people think it would be a good thing for this country if more students could go to college than go now. What do you think about this?

____

E11a. Why do you think so? ______________________________

____

E12. Would you say it is more important or less important for this country to have a large number of young people go to college now than it was 20 or 30 years ago, or would you say there isn't any difference?

☐ MORE IMPORTANT ☐ LESS IMPORTANT ☐ NO DIFFERENCE ☐ DON'T KNOW (SKIP TO PAGE 16, Q. E13)

E12a. Why do you say that? ______________________________

____

E13. Colleges all over the country are having to turn down high school graduates who want to come because they don't have room for them. Some people think this is a pretty serious problem and others don't think it is. How about you, would you say it is very serious, somewhat serious, or not at all serious?

☐ VERY SERIOUS ☐ SOMEWHAT SERIOUS ☐ NOT AT ALL SERIOUS ☐ DON'T KNOW (GO TO Q. E14)

E13a. Why is that? ______________________________

____

E14. Do you think this problem of not enough room in the colleges is going to get better in the next few years, or is it going to be worse?

☐ GOING TO GET BETTER ☐ GOING TO GET WORSE ☐ CAN'T SAY (GO TO Q. E15)

E14a. What do you have in mind? ____________________

E15. Some people think there are already too many young people going to college. They want to let only the brightest students go to college. Others think we ought to build more colleges so more students can go. How do you feel about this?

____

E15a. Why do you feel that way? ____________________

E16. Do you think (...NAME OF STATE...) is doing about what it should in making it possible for young people here to go on to college, or would you say it is doing too much or not doing enough?

____

E16a. Why do you say that? ____________________

3

When a student goes to one of the state universities or colleges here in (...NAME OF STATE...), he pays a fee that covers a part of the costs of his education. The state pays for the rest of the cost out of tax money.

Some people would like to see the student pay more so the state wouldn't have to pay so much. Other people feel the state should pay more so the student would pay less.

E17. How do you feel about this; should the student pay more, or should the state pay more, or don't you have any opinion on this?

☐ STUDENT PAY MORE, STATE LESS ☐ STATE PAY MORE, STUDENT LESS ☐ ALL RIGHT THE WAY IT IS ☐ DON'T KNOW (GO TO Q. E18)

E17a. Why do you feel this way? ____________________

____

E18. If the people of (...NAME OF STATE...) were asked to pay a little more in taxes so that more young people in (...NAME OF STATE...) could go on to college, do you think you would vote for this or against it? (IF NECESSARY: Just suppose?)

☐ FOR ☐ AGAINST

E19. Do you think there is anything the state universities could do to hold down the costs of a college education?

____

E19a. What do you have in mind? ____________________

____

QUESTIONS E20 - E32 ARE INAPPLICABLE

E33. Now let me ask a few questions about the grade schools and high schools here in (...NAME OR CITY OR COUNTY...). Do you think they are getting about the right amount of money they need to run the way they ought to, or are they getting too much, or not enough?

☐ RIGHT AMOUNT ☐ TOO MUCH ☐ NOT ENOUGH ☐ DON'T KNOW (GO TO Q. E34)

E33a. Why do you say that? ______________________________

____

E34. When they have elections here to vote money for new school buildings, increases in teachers' salaries and that sort of thing, are you usually in favor of them, usually against them, or are you in favor of some and against some?

☐ FOR ☐ AGAINST ☐ PRO-CON; for some, against some ☐ DON'T KNOW, DON'T PAY ANY ATTENTION

E35. Would you say you vote in most of the school elections here in (...NAME OF CITY OR COUNTY...), some of them, a few of them, or none of them?

☐ MOST ☐ SOME ☐ A FEW

☐ NONE, CAN'T VOTE ☐ NONE, DON'T VOTE ☐ DON'T KNOW

E36. Now I'd like to ask about the education of any children you may have. Do you have any sons or daughters under 25 years of age, including those living away?

☐ YES ☐ NO (SKIP TO PAGE 28, Q. F24)

E36a. How old are your children, starting with the oldest?

(INTERVIEWER) ENTER THE SEX AND AGE OF EACH CHILD IN A SEPARATE COLUMN, STARTING WITH THE OLDEST	(OLDEST) Sex:__________ Age:______
(ASK ABOUT EACH SON OR DAUGHTER AGE 5 OR OVER) E37. Is your (. . .) year old (son, daughter) in school, how far along is (he, she), or has (he, she) finished school, or what? (IF IN SCHOOL, ENTER GRADE; IF IN COLLEGE, ENTER YEAR)	In school, grade:__________ In college, year:__________ Finished education? ☐ YES ☐ NO Other:____________________

(ASK ABOUT EACH WHO IS PRE-SCHOOL AGE OR IN SCHOOL, INCLUDING HIGH SCHOOL)

E38. How much education do you expect (him, her) to have before (he, she) stops going to school?	
(IF NOT CLEAR OR MAY GO TO COLLEGE) E38a. Would you say it's pretty certain (he, she) will go to college, there's a fair chance, only a slight chance, or what?	☐ CERTAIN TO GO ☐ FAIR CHANCE ☐ SLIGHT CHANCE (GO ON WITH Q. E38b) ☐ NO CHANCE -- (REPEAT Qs. FOR NEXT CHILD; IF NO OTHER CHILDREN, GO TO Q. E39)
E38b. Do you have in mind a four year college, a junior college, or a vocational school?	☐ 4 YEAR ☐ VOCATIONAL ☐ 2 YEAR JUNIOR COLLEGE
E38c. Do you expect him to live at home or at the college?	☐ AT HOME ☐ AT THE COLLEGE

(SECOND CHILD)	(THIRD CHILD)	(FOURTH CHILD)
Sex:_____ Age:_____	Sex:_____ Age:_____	Sex:_____ Age:_____
School, grade:_______	School, grade:_______	School, grade:_______
College, year:_______	College, year:_______	College, year:_______
Finished education?	Finished education?	Finished education?
☐ YES ☐ NO	☐ YES ☐ NO	☐ YES ☐ NO
Other:___________	Other:___________	Other:___________

REPEAT Qs. FOR NEXT CHILD.

___________	___________	___________
☐ CERTAIN TO GO	☐ CERTAIN TO GO	☐ CERTAIN TO GO
☐ FAIR CHANCE	☐ FAIR CHANCE	☐ FAIR CHANCE
☐ SLIGHT CHANCE	☐ SLIGHT CHANCE	☐ SLIGHT CHANCE
☐ NO CHANCE	☐ NO CHANCE	☐ NO CHANCE
☐ 4 YR. ☐ VOCAT'L	☐ 4 YR. ☐ VOCAT'L	☐ 4 YR. ☐ VOCAT'L
☐ 2 YR. JR. COLL.	☐ 2 YR. JR. COLL.	☐ 2 YR. JR. COLL.
☐ AT HOME ☐ AT COLL.	☐ AT HOME ☐ AT COLL.	☐ AT HOME ☐ AT COLL.

(INTERVIEWER: REPEAT SEQUENCE - Qs. E37-E38c FOR EACH CHILD)

ASK IF THERE ARE ANY CHILDREN NOT YET IN COLLEGE WHO HAVE A CHANCE TO GO

E39. How do you expect (his, her, their) college education will be financed?

____

____

E40. How much do you think it will cost to send (your child, one of them) to college for a year, counting board and room, tuition, fees, books, clothes, travel, and anything else?

$__________(per year)   COMMENTS____________________

____

E41. Do you have any money saved up that can help pay for (his, her, their) college education?

☐ YES   ☐ NO

E41a. About how much money were you able to put aside this last year for your (child's, children's) education?

$________________

E41b. Do you have this money in an endowment policy, a savings account, savings bonds, corporate stock, or what?

____

____

E41c. Is this money you have saved out of your income, or was it inherited, or given to you, or what?

____

E41d. Is this money intended just for the (child's, children's) education, or may some of it be used for other purposes?

____

CONTROL VARIABLES USED IN THIS REPORT

Family Income

1. Under $3000
2. 3,000-4,999
3. 5,000-7,499
4. 7,500-9,999
5. 10,000-14,999
6. 15,000-19,999
7. 20,000 and over

Education of Respondent

1. Grade school (1-8); none
2. Some high school
3. Some high school plus nonacademic
4. Completed high school
5. Completed high school plus nonacademic
6. Some college
7. Has college degree

Age of Respondent

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 55-64
6. 65 and over

Religion of Respondent

1. Protestant
2. Catholic
3. Jewish
4. Other
0. None

Political Affiliation of Respondent

1. Strong Democrat
2. Not very strong Democrat
3. Independent closer to Democrats
4. Independent
5. Independent closer to Republicans
6. Not very strong Republican
7. Strong Republican
0. Apolitical

Race

1. White
2. Negro
5. Other, including Mexicans, Puerto Ricans

Region

1. West
2. North Central
3. Northeast
4. South

Location

1. Central cities of 12 largest SMSA's (including consolidated areas)
2. Central cities of other SMSA's
3. Suburban areas of 12 largest SMSA's (including consolidated areas)
4. Suburban areas of other SMSA's
5. Adjacent areas
6. Outlying areas

Life Cycle

1. Young (under 45), single
2. Young (under 45), married, either no children or none under 25
3. Married, children under 18
4. Married, children between 18 and 25
5. Older (45 or over), married, either no children or none under 25
6. Older (45 or over), single, no children
7. Other (Included divorced or other presently unmarried persons with children)

Organizational Leadership

1. Nonmember of political, social, religious or professional organization
2. Member but no office-holder
3. Officer or other responsible member of an organization

State Support[a]

1. First quartile
2. Second quartile
3. Third quartile
4. Fourth quartile

[a] See listing of states within quartiles on following pages

PER CAPITA EXPENDITURES ON EDUCATION, 1962-63, BY STATE[a]

	Quartile Ranking	State	1962-63 Estimated Expenditures	1960 Estimated Population	1962-63 Expenditures Per Capita
1	1	Oregon	$ 33,423,000	1,768,687	$18.90
2		Nevada	5,299,000	285,278	18.57
3		Washington	51,757,000	2,853,214	18.14
4		Utah	15,580,000	890,627	17.49
5		Colorado	29,916,000	1,753,947	17.06
6		Hawaii	10,778,000	632,772	17.03
7		Wyoming	5,599,000	330,066	16.96
8		Montana	11,161,000	674,767	16.54
9		North Dakota	10,386,000	632,446	16.42
10		Kansas	35,038,000	2,178,611	16.08
11		Arizona	20,422,000	1,302,161	15.68
12	1	California	243,808,000	15,717,204	15.51

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[a] Source: Estimated 1962-63 expenditures were derived from a report by M. M. Chambers entitled Appropriations of State Tax Funds for Operating Expenses of Higher Education 1962-63, Joint Office of Institutional Research.
State population figures were taken from Statistical Abstract of the United States, 1963.

	Quartile Ranking	State	1962-63 Estimated Expenditures	1960 Estimated Population	1962-63 Expenditures Per Capita
13	1	Idaho	$ 10,137,000	667,191	$15.19
14		New Mexico	14,372,000	951,023	15.11
15		Alaska	3,301,000	226,167	14.60
16		Louisiana	46,760,000	3,257,022	14.36
17		Iowa	38,914,000	2,757,537	14.11
18	1	Indiana	62,709,000	4,662,498	13.45
			First quartile= 41,541,218		
19	2	Michigan	104,082,00	7,823,194	13.30
20		Minnesota	44,058,000	3,413,864	12.91
21		Oklahoma	30,020,000	2,328,284	12.89
22		South Dakota	8,702,000	680,514	12.79
23		Nebraska	17,078,000	1,411,330	12.10
24		Delaware	5,094,000	446,292	11.41
25	2	Wisconsin	44,670,000	3,951,777	11.30

	Quartile Ranking	State	1962-63 Estimated Expenditures	1960 Estimated Population	1962-63 Expenditures Per Capita
26	2	Illinois	$113,043,000	10,081,158	$11.21
27		West Virginia	20,743,000	1,860,421	11.15
28		Kentucky	29,573,000	3,038,156	9.73
29		Vermont	3,750,000	389,881	9.62
30		Maryland	29,809,000	3,100,689	9.61
31	2	New York	156,556,000	16,782,304	9.33
		Second quartile= 55,307,864			
32	3	Florida	46,043,000	4,951,560	9.30
33		Arkansas	16,599,000	1,786,272	9.29
34		Rhode Island	7,697,000	859,488	8.96
35		Texas	83,282,000	9,579,677	8.69
36		Georgia	32,162,000	3,943,116	8.16
37		Mississippi	17,500,000	2,178,141	8.03
38	3	North Carolina	36,532,000	4,556,155	8.02

	Quartile Ranking	State	1962-63 Estimated Expenditures	1960 Estimated Population	1962-63 Expenditures Per Capita
39	3	New Hampshire	$ 4,733,000	606,921	$ 7.80
40		Missouri	33,253,000	4,319,813	7.70
41		Maine	7,429,000	969,265	7.66
42	3	Virginia	28,859,000	3,966,949	7.27
		Third quartile= 37,717,357			
43	4	Alabama	22,051,000	3,266,740	6.75
44		South Carolina	15,440,000	2,382,594	6.48
45		Connecticut	15,948,000	2,535,234	6.29
46		Tennessee	22,359,000	3,567,089	6.27
47		Ohio	55,620,000	9,706,397	5.73
48		New Jersey	34,079,000	6,066,782	5.62
49		Pennsylvania	56,187,000	11,319,366	4.96
50	4	Massachusetts	16,503,000	5,148,578	3.21
		Fourth quartile= 43,992,780			
		TOTAL POPULATION=178,559,219			

APPENDIX B

Appendix B

SAMPLING ERROR

Even in a properly conducted sample interview survey, estimates are subject to error arising from various sources. The errors most generally considered are those which may arise in the interview situation itself--inaccuracies in asking, answering and recording--those which may occur during the processing of the data, and those which result from the fact that a sample, and not the entire population, is being interviewed. These last are termed "sampling errors."

Sampling errors may be thought of as the extent to which findings based on a particular sample differ from the true figures which would have been obtained had the entire population been interviewed. Various factors influence the size of such sampling errors. The size and nature of the sample are particularly important.

1. Size of the sample. In general, the larger the sample, the smaller the sampling error. An estimate based on a sample of 1310 cases is less likely to be far away from the true population value than one based upon fifty or thirty-five cases.

2. Nature of the sample. With a sample of a given size, the smallest sampling error would be achieved if the interviews were widely scattered throughout the area or the population under study. In its ideal form, this kind of sample is usually prohibitively expensive. For most surveys, including this study, a compromise is made, therefore, and the interviews are "clustered" within a limited number of geographic areas. Such clustering increases the sampling error but makes possible more efficient use of interviewing staff. The procedures used for computing sampling errors in this study take into consideration the effects of this kind of sampling.

Table A

Approximate Sampling Errors

(Expressed in Percentages)

Reported Percentage	Number of Interviews on Which the Percentage is Based					
	2000	1000	700	500	300	200
50%	2.2 - 3.3	3.2 - 4.4	3.8 - 5.2	4.5 - 6.0	5.8 - 7.6	7.1 - 9.2
30 or 70%	2.1 - 3.2	2.9 - 4.0	3.5 - 4.8	4.1 - 5.5	5.3 - 6.9	6.5 - 8.4
20 or 80%	1.8 - 2.7	2.5 - 3.5	3.0 - 4.1	3.6 - 4.8	4.6 - 6.0	5.7 - 7.4
10 or 90%	1.3 - 2.0	1.9 - 2.6	2.3 - 3.1	2.7 - 3.6	3.5 - 4.6	4.2 - 5.5
5 or 95%	1.0 - 1.5	1.4 - 1.9	1.6 - 2.2	1.9 - 2.5	2.5 - 3.3	3.1 - 4.0

Table B

Approximate Sampling Error of Differences[1]
(Expressed in percentages)

Size of sample or group	Size of sample or group							
	3000	1000	700	500	400	300	200	100
	For percentages from about 35 per cent to 65 per cent							
3000	2.9	4.1	4.6	5.3	5.8	6.7	8.0	11.0
1000	...	5.0	5.4	6.1	6.5	7.3	8.5	11.0
700	...	...	5.8	6.5	6.9	7.6	8.8	12.1
500	...	...	...	6.9	7.4	8.0	9.2	12.1
400	...	...	...	...	7.8	8.4	9.6	12.1
300	...	...	...	...	...	9.0	10.0	13.2
200	...	...	...	...	...	...	11.0	13.6
100	...	...	...	...	...	...	....	15.4
	For percentages around 20 per cent and 80 per cent							
3000	2.3	3.2	3.7	4.3	4.7	5.3	6.4	8.9
1000	...	4.0	4.3	4.8	5.2	5.8	6.8	9.2
700	...	...	4.7	5.2	5.5	6.1	7.0	9.5
500	...	...	...	5.6	5.9	6.4	7.4	9.7
400	...	...	...	...	6.3	6.7	7.6	9.8
300	...	...	...	...	...	7.2	8.0	10.1
200	...	...	...	...	...	...	8.8	10.8
100	...	...	...	...	...	...	...	12.1
	For percentages around 10 per cent and 90 per cent							
3000	1.7	2.4	2.8	3.2	3.5	4.0	4.8	...
1000	...	3.0	3.3	3.6	4.0	4.4	5.1	...
700	...	...	3.5	3.9	4.2	4.5	5.3	...
500	...	...	...	4.2	4.4	4.8	5.5	...
400	...	...	...	...	4.6	5.1	5.7	...
300	...	...	...	...	...	5.4	6.1	...
200	...	...	...	...	...	...	6.6	...
	For percentages around 5 per cent and 95 per cent							
3000	1.2	1.8	2.0	2.3	2.5	2.9	3.5	...
1000	...	2.9	2.3	2.6	2.9	3.2	3.6	...
700	...	...	2.5	2.9	3.0	3.3	3.9	...
500	...	...	...	3.1	3.2	3.5	4.0	...
400	...	...	...	...	3.4	3.6	4.2	...
300	...	...	...	...	...	4.0	4.4	...

[1] The values shown are the differences required for significance (two standard errors) in comparison of percentages derived from two different subgroups of the current survey.

Sampling error is computed in terms of intervals to be used in estimating the true population value. Table A presents two sampling error estimates; the lower one is appropriate for simple random samples; the higher one is based on extensive computations of individual sampling errors using the Centers Stratified Sample. The "sampling error" used here is equal to two "standard errors." Thus the sampling error figure indicates the range on either side of the sample estimate within which the population value can be expected to lie 95 chances in 100. This means that when 90 per cent of our sample indicate they feel a boy should go on to two years of college, we can feel assured that 95 out of 100 times the true population figure will lie between 92.6 per cent and 87.4 per cent. If one requires a larger degree of confidence than this, a wider range than two standard errors should be used. On the other hand, most of the time the actual error of sampling will be less than the sampling error defined above; in about 68 cases out of every 100 the population value can be expected to be within a range of one-half the sampling error of the sample estimates.

Sampling error is also relevant when an observed difference between subgroups in the sample is being considered. Table B gives the number of percentage points required for such a difference to be considered "significant." A significant difference is defined once again as one whose size is such that it would be expected to occur by chance alone five times in 100 or less if there were actually no difference between groups in the population.